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A MANUAL

OF

PSYCHOLOGICAL MEDICINE.

Fig. 1.



Fig. 4.



Fig. 5.

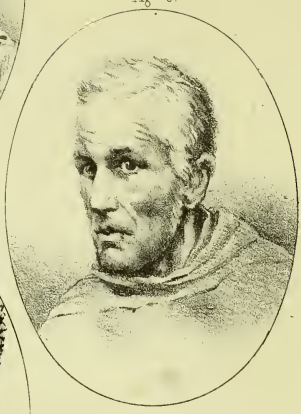


Fig. 2.



Fig. 6.



Fig. 7.



Fig. 3.



TYPES OF INSANITY,

FROM PHOTOGRAPHS TAKEN IN THE DEVON COUNTY LUNATIC ASYLUM

for description see the first seven cases in the Appendix.

T. Sinclair's lith, Phil.ª

A MANUAL

OF

PSYCHOLOGICAL MEDICINE:

CONTAINING

THE HISTORY, NOSOLOGY, DESCRIPTION, STATISTICS, DIAGNOSIS, PATHOLOGY, AND TREATMENT

OF

INSANITY.

With an Appendix of Cases.

BY

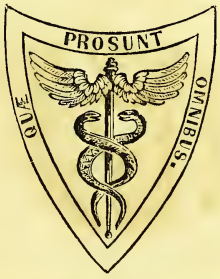
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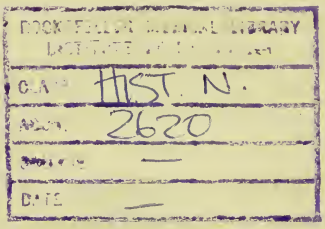
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PREFACE.

THE Authors of the following pages have long felt the want of a systematic treatise on Insanity, adapted to the use of students and practitioners in Medicine. Numerous monographs and works on limited portions of Psychological Medicine have appeared of late years. They are of great value to the specialist physician, but they do not meet the oft-repeated inquiry of the student and practitioner, "To what systematic treatise on Insanity can I refer?" Dr. Prichard's excellent "Treatise on Insanity" has undoubtedly been the one which hitherto has most nearly afforded the desired information; but it was written a quarter of a century ago, at a time when the treatment of Insanity bore an aspect entirely different to its present one; and, moreover, it is now out of print.

A knowledge of the nature and treatment of Insanity is now expected of every well-educated medical man. The India Board require it of all persons to whom medical appointments are given under their new system of competitive examination. It is reasonable to expect that the good example thus set will be followed in other quarters; and a desire to obtain a competent knowledge of this important branch of medical practice has become far more general in the profession than it ever before has been.

The Authors are aware that no amount of reading can render it safe to dispense with a clinical knowledge of mental disease. Their aim has been to supply a text-book which may serve as a guide in the acquisition of such knowledge, sufficiently elementary to be

adapted to the wants of the student, and sufficiently modern in its views, and explicit in its teaching, to suffice the demands of the practitioner.

How far the Authors have succeeded in their purpose, it remains for their readers to determine; of their shortcomings none can be more sensible than they are themselves.

It only remains to add respecting this Work, that the Chapters on the History, Nosology, Description, and Statistics, namely, that portion of the Work from the commencement to page 267, are written by Dr. TUKE; and that the Chapters on the Diagnosis, Pathology, and Treatment of Insanity, and the Appendix of Cases, from page 267 to the end of the Work, are written by Dr. BUCKNILL.

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PSYCHOLOGICAL MEDICINE.

CHAPTER I.

HISTORICAL SKETCH OF INSANITY AMONG THE NATIONS OF ANTIQUITY, MAINLY IN REGARD TO ITS EXTENT.

SECTION I.—*Inference to be drawn from the Condition of the Ancients in regard to Civilization.*

WHAT is the effect of the progress of civilization upon mental disease? How far did the civilization of the most civilized periods of ancient history extend? These are inquiries which at once suggest themselves when we endeavor to estimate the probable extent of insanity among the nations of antiquity.

In the statistical chapter we shall enter fully into the consideration of the first question, namely, whether or not civilization favors the generation of insanity. It is sufficient for our present purpose, therefore, to state the general result of that inquiry, which is this,—our conviction that, *other things being equal*, civilization does, on the whole, tend to render men more liable to mental disease. Hence, it only remains for us to inquire here, into the extent to which the great bulk of the people among the ancients were civilized; especially as compared with modern society.

We believe it will be found that the Egyptians, the Greeks, and the Romans, however highly civilized in certain directions, will not, as a whole, bear comparison with the present Anglo-Saxon race. "What were the people of Egypt," asks a late eloquent writer, "at the time when the learning of the Egyptians was the envy and wonder of the world; when even wise men from Greece resorted thither to accomplish their studies, and qualify themselves to be teachers at home? Methinks it is sufficiently evident, from the uniform character of immensity stamped upon all the ruins of temples, palaces, and cities, as well as from the more perfect specimens of pyramids, obe-

lisks, and statues, yet extant in the land of Nile, that a number comparatively small of master minds supplied the ideas, which myriads of laborers were perpetually employed to embody; and that the learning of Egypt was nearly, if not wholly, confined to the priesthood and the superior classes. The marvellous relics of Memphian grandeur, of which new discoveries are made by every successive traveller into the desert, or up the river, are melancholy proofs that the vaunted learning of Egypt, when it existed, was as much locked up from the comprehension of the vulgar, as it is at this day from the curiosity of the learned, in their undecipherable hieroglyphics, wherein it may be said to be embalmed."

In other countries, no less than in Egypt, it is sufficiently obvious that the state of society, how much soever it is now enveloped in obscurity, must have been essentially different from that which it has assumed in modern times. Extreme simplicity marked the patriarchal age; refinement and luxury were then almost unknown; and notwithstanding the Father of the Faithful possessed "flocks and herds, silver and gold, men-servants and maid-servants, camels and asses," his manners were simple, and his habits and pursuits altogether favorable to mental tranquillity; they belonged to rural, pastoral life. The destined wife of Isaac was found with her pitcher on her shoulder, about to draw water. Other similar illustrations of Eastern simplicity and nomadic life will occur to the reader.

Passing to the early, and therefore more or less legendary period of Grecian history, abundant examples of the same condition of society are not wanting. In the Iliad, Paris is incidentally mentioned as at least assisting in the construction of his own dwelling:

> "Himself the mansion raised, from every part
> Assembling architects of matchless art."

Ulysses, also, made his own house:

> "Around this tree I built, with massy stones
> Cemented close, my chamber, roofed it o'er,
> And hung the glutinated portals on."[1]

And from the following passage, the inference is fair that he practised mowing, as well as ploughing:

> "Were we matched
> In working against each other, thou and I,
> Mowing in springtime when the days are long,

[1] Cowper's Odyssey, Book xviii, v. 449.

I with my well-bent sickle in my hand—
Or if again it were our task to drive,
Yoked oxen of the noblest breed, sleek paired,
Big limbed, both fattened to the full with grass,
Their age and aptitude for work the same,
Not soon to be fatigued; and were the field
In size four acres, with a glebe through which
The share might smoothly slide, then shouldst thou see
How straight my furrow should be cut and true."[1]

Grote observes, when speaking of the office and station of a king in the heroic times of Greece, that "Even the more homely varieties of manual acquirement are an addition to his character; such as the craft of the carpenter or shipwright, the straight furrowing of the ploughman, or the indefatigable persistence of the mower, without repose or refreshment throughout the longest day."[2] Moreover, at this early period, the general servitude[3]—the absence of individual action or thought, beyond the narrow limits of daily necessities—in regard to the population at large, is an important fact in relation to the exercise of the mental faculties, and their derangement; thus it is concluded by the historian of Greece, that, in the society depicted in the old Greek poets, the mass of the people was politically passive and of little account. People were congregated in comparatively small companies, their wants were few, and they were not unlike modern agricultural populations, among whom the clergyman and the squire, the apothecary and the blacksmith, are the all-important personages; these being represented in the Grecian village by the prophet, the leech, the bard, the carpenter, the smith, and the leather dresser.[4] Not less indicative of the habits and social condition of this period was the employment of the women, that is to say, the women of the highest families. "Spinning and weaving," observes Grote, "were their constant occupation, whether free or slave, of every rank and station; all the garments worn, whether by men or women, were fashioned at home; and Helen, as well as Penelope, is expert and assiduous at the occupation. The daughters of Keleos and Eleusis go to the well with their basins for water; and Nausikaa, daughter of Alcinous, joins her female slaves in the business of washing her garments in the river."[5]

[1] Cowper's Odyssey, Book xxiii, v. 225. [2] Vol. ii, p. 87.

[3] It is computed that, in Attica, out of a population of 528,000, 400,000 were in a state of slavery.

[4] See on this subject, Grote, Op. cit. vol. ii, p. 130. [5] Op. cit. vol. ii, p. 133.

And even in the subsequent periods of Grecian history, although comparatively civilized, and although the arts flourished to a remarkable degree, scarcely more than the elements of the civilization of modern Europe were present. "That the body of the Athenians," remarks Montgomery, "under the tyrant Pisistratus, who is said to have first collected the scattered songs of Homer, and down even to the days of Pericles (that munificent patron of the fine arts), were little skilled in reading and writing, is the almost inevitable conclusion to be drawn from the state of literature in reference to the means of diffusing it in ancient times. Before the invention of printing, the slow production, the consequent scarcity, and the enormous value of books, when all were manuscripts, placed the possession of them beyond the reach of the poor; and where libraries existed, few but the learned and the great could have access to them." It is stated by Dr. Vaughan,[1] that there is no reason to suppose one in a hundred could read, out of the myriads who peopled the great cities of Asia; and that a very limited oral system of instruction existed to supply this want. "Down to the generation preceding Socrates," observes Grote, "the poets continued to be the grand leaders of the Greek mind; until then nothing was taught to youth except to read, to remember, to recite musically and rhythmically, and to comprehend poetical composition."[2] In the very zenith of the civilization of Greece, we believe it would be found, while poets and philosophers stood with great prominence as indeed giants of intellectual power, that what we understand by the great mass of the people, were wanting in mental cultivation; and did not use their brains so much, and what is also of much importance in relation to this subject, were not exposed to the same moral struggles, religious perplexities, or mental anxiety, as are the men and women of our own age. As regards the latter, there is a complete revolution. The Mrs. Somervilles of antiquity were few in number, if they existed at all. And if this were the place to enter into it, it were easy to show that the education of the women of England has, for the most part, run counter to the laws upon which the integrity of the cerebral functions depends.

Nor is it probable that, among the Romans, notwithstanding the character and the influence of the poets and philosophers whose names have been handed down to our times, there were many given to intense and enduring intellectual labor. We believe the writer to be correct, who says, that they labored under the same disadvantages

[1] Age of Great Cities, p. 21.

[2] Op. cit. vol. iv, p. 130.

in acquiring and communicating knowledge as the Greeks; and "they labored under many more from the rough fierce manners of the plebeians, and the unquenchable thirst for martial glory that distinguished the patricians."

From all these considerations, we think it probable that there did not exist among the nations of antiquity that form, or that extent of civilization, which is now to be found among the yet more highly civilized nations of modern Europe, and which, as we believe, tends in some degree, to exhaust or derange the mental powers. That insanity was, however, by no means unknown to them, we shall see, first,—by the instances of persons who had lost their reason, whose names have been handed down to us; and secondly, by the reference made by early writers to the disease.

Section II.—*Examples in Ancient History of Persons who were Insane, or who feigned Insanity; including References made to the Disease, by Medical and other Writers.*

The feigned madness of Ulysses, immediately prior to the Trojan war, should be regarded as the earliest reference in antiquity to the existence of mental disease, if we adopt the view that such an event actually occurred at least a century before Homer flourished. Otherwise, the madness of Saul claims priority, he having probably died a short period before Homer lived. But the Homeric age, or legendary epoch of Grecian History, is enveloped in much obscurity. The same observations apply to the madness, real or supposed, of Ajax, who must not be overlooked in our illustrations of the madmen of antiquity. But first, in reference to Ulysses, it may be remarked, that the test applied by Palamedes, to discover his condition of mind, proceeded upon the fallacious idea, but too common even in our own times, that because an individual is mad upon one point, he is necessarily so upon all. The wish and the endeavor to save the life of his son Telemachus were consistent with genuine mania. King David feigned dementia with better success.

After the dispute between Ajax and Ulysses, respecting the arms of the dead Achilles, which ended in their being awarded to the latter, Ajax was seized with madness, and slaughtered sheep and oxen, under the illusion that they were the sons of Atreus who had favored his rival. Afterwards, when Ulysses hesitated to see him,

at the instance of Minerva, who was fabled to have inflicted this disorder, she responds, according to the poet,—who, as has been well said, "sang and showed in grand dramatic rhythm and melody, not a fable, but a fact,"—

Dost thou then fear
To see a madman?

To which the son of Laertes replies:

Were his senses sound
I should not fear him.

And when the madman's wife, Tecmessa, is asked, "how this sudden ill began," she answers:

The night was far advanced; the evening lamps
No longer blazed; when, grasping in his hand
His dreadful sword, he bent his eager steps
Towards the passes, from all haunt now clear.
* * * * he issued forth alone.
What then befell I know not; he returned
Driving in bonds the bulls, the herdsman's dogs,
And lowing herds; some by his sword were slain,
And hewn in pieces; some like captives bound,
Raging against the flocks, he scourged as men.
At length he issued from the tent, and held
Long converse with some shadow; of the sons
Of Atreus much, and of Ulysses much,
He spoke, and laughed aloud, how their base deeds
He in this sally amply had revenged.
Entering the tent again, his sense at length
Slow he regained; but when he saw the ground
With carnage covered thus, he smote his head,
And raised a mournful cry; then prostrate lay,
Stretched midst the havoc of the slaughtered flocks,
Rending with violence his hair. Long time
He lay, nor uttered word; with rigorous threats
Then bade me tell him every circumstance
Of what had passed, and whence the carnage asked
That lay around him; struck with fear, my friends,
Distinct I told him all that had been done,
Far as I knew it; straight with mournful cries
Loud he lamented; such from him before
I never heard.

The madness of Orestes is thus graphically described by his sister Electra:

* * * * on his bed
He lies; his mother's blood to frenzy whirls

His tortured sense; the avenging powers that haunt
His soul with terrors thus, I dare not name.
The sixth day this, since, on the hallowed pile,
My slaughtered mother purged her stains away.
No food hath passed his lips; no bath refreshed
His limbs; but in his garments covered close,
When his severe disease abates a little,
He melts in tears; and sometimes from his couch
Starts furious, like the colt burst from his yoke.

The scene in which Electra administers to her sick brother, is described with still greater force and accuracy of detail:

ELECT.—Alas, my brother! wildly roll thine eyes;
So quickly changed,—the frantic fit returns.
OREST.—Ah, my mother! do not set thy furies on me.
See how their fiery eyeballs roll in blood,
And wreathed snakes hiss in their horrid hair!
There, there they stand! ready to leap upon me.
ELECT.—Rest thee, poor brother; rest thee on thy bed;
Thou seest them not,—'tis fancy's coinage all.
OREST.—Oh, Phœbus! they will kill me; those dire forms,
Those Gorgon-visaged ministers of hell!
ELECT.—Thus will I hold thee, round thee throw mine arms,
And check the unhappy force of thy wild starts.
OREST.—Oh, let me go! I know thee, who thou art;
One of the furies; and thou grapplest with me,
To whirl me into Tartarus; avaunt!

The "heaven-inspired Cassandra" was regarded by the Trojans as insane, and was said to have been confined. Plato, in the Timæus, makes some most interesting observations on the connection between divination and insanity: "A sufficiently clear proof," says he, "that the Deity assigned prophetic power to *human madness*, is found in the fact that, no one in his right senses has any concern with divinely inspired and true prophecy, which takes place only when the reasoning power is fettered by sleep, or alienated by disease or by enthusiasm." He then goes on to say, that such do not themselves know the meaning of what they give forth; "it being by no means," he observes, "the office of one who *either has been or is still mad*, to judge respecting things seen or spoken by himself; * * * whence, indeed, the law directs that the race of prophets (or interpreters) should preside as judges over divine predictions."[1] In fact, the Greek word μαντὶς, a soothsayer, which is here used by Plato, and is

[1] Plato, translated by Davis, vol. ii, p. 283.

also employed in regard to Cassandra, is derived from μαίνομαι, to rave, from which our term mania is likewise derived.

In the Phædrus, also, Plato observes, "the greatest blessings we have, spring from madness, when granted by divine bounty. For the prophetess at Delphi, and the priestesses at Dodona, have, when mad, done many and noble services for Greece, both privately and publicly; but in their sober senses little or nothing. And if we were to speak of the Sibyl, and others, who, employing prophetic inspiration, have correctly predicted many things to many persons, respecting the future, we should be too prolix in relating what is known to every one. This, however, deserves to be adduced by way of testimony, that such of the ancients as gave names to things did not consider madness as disgraceful, or a cause of reproach; for they would not have attached this very name to that most noble art by which the future is discerned, and have called it a mad art; but considering it noble when it happens by the divine decree, they gave it this name. But the men of the present day, by ignorantly inserting the letter τ, have called it the prophetic art."[1]

Mr. Colquhoun, in his *Isis Revelata*, maintains that the oracular responses were associated with a magnetic condition of the system. "The miracles of the magicians, the Delphic and other oracles, the prophetic inscriptions of the Sibyls, the temple sleep, the cures wrought by the Asclepiadæ, these were the triumphs of animal magnetism in those ages."

But whatever may have been due to animal magnetism, or to positive madness, there is reason to suppose that something must be attributed to the use of an intoxicating gas, as the nitrous oxide. Dr. A. T. Thomson suggests sulphurous acid gas.

In his Timæus, Plato makes several other allusions to madness. Thus, after speaking of bodily disease, he goes on to say, "In the above manner are the diseases of the body produced; but the diseases of the soul, resulting from the habit of the body, are as follows. We must admit that the disease of the soul is folly, or a privation of intellect; and that there are two kinds of folly, the one madness, the other ignorance. Whatever passion, therefore, a person experiences, that induces either of them, must be called a disease. Excessive pleasures and pains, however, are what we should deem the greatest diseases of the soul; for when a man is over-elevated with joy, or unduly depressed with grief, and so hastens immoderately either to

[1] Plato, translated by Cary, vol. i, p. 319, 320.

retain the one, or fly from the other, he can neither perceive nor hear anything properly, but is agitated with fury, and very little capable of exercising the reasoning power." Plato then goes on to enunciate a doctrine totally repugnant to all sound psychology; indeed he confounds crime and insanity together, to an extent which would shock the stoutest supporter of the doctrine of irresponsibility in criminal cases. He says: "And indeed it may almost be asserted, that all intemperance in any kind of pleasure, *and all disgraceful conduct*, is not properly blamed as the consequence of voluntary guilt. For *no one is voluntarily bad;* but he who is depraved becomes so through a certain bad habit of body, and an ill-governed education." "All the vicious are vicious through two most involuntary causes, which we shall always ascribe rather to the planters, than the things planted; and to the trainers, rather than those trained."[1] In the same remarkable production, Plato observes, "There are two kinds of madness; one arising from human diseases, the other from an inspired deviation from established custom."[2]

In the minute description of the orgies of Bacchus, preserved to us in the Bacchæ of Euripides, many allusions are made to madness, and the power of this god in inducing it. Thus, it is said, in regard to Pentheus, who profanely opposed his worship:

> Now, Bacchus, comes thy part; nor distant thou;
> Avenge us on him; of his senses first
> Deprive him; with light madness strike his soul.
> * * * * * *
> * * strike him with madness then.

And Tiresias, in a former part of the drama, in addressing Pentheus, thus alludes to madness:

> For thou art mad, and thy deep malady
> No medicines save these, have power to heal.

And again:

> Wretch as thou art, thou know'st not what thou say'st:
> Thy reason failed before; but this is now
> Outrageous madness.

And the power of Bacchus to inspire madness[3] is referred to in the lines commencing,

[1] Plato, translated by Davis, vol. ii, p. 401–3. [2] Cary's Translation, vol. i, p. 343.
[3] Independently of intoxication. Thus, it has been said by a poet:

> "'Twas not that the ruddy cluster
> Of the wine o'ercame their soul;

Go, ye fleet dogs of madness, go—

Nor must the following striking passage be omitted:

For here is a prophet of the gods, one in whom is the power of Bacchus—one who raves, possessing much of prophecy. For when the god has fully entered into the body, he gives power to the maniac to foretell what is to be. Mars, also, has taken some part (in this), for the army being under arms and in battle array, were thrilled with sudden fear, before ever a spear had been touched: such mania is caused by Bacchus.

Lycurgus, King of the Edones, in Thrace, refused divine worship to Bacchus, in consequence of which the god visited him with madness. In this condition, and under the delusion that he was cutting down a vine, he killed, according to Apollodorus, his own son. Lycurgus recovered his reason; the country was, however, no longer fertile, and he was killed by his subjects, in consequence of the oracle declaring that by this alone could fertility be restored.[1]

The three daughters of Prætus, Lysippe, Iphinoe, and Iphianassa, are fabled to have become insane, in consequence of neglecting the worship of Bacchus. We are informed, that they ran about the fields, believing themselves to be cows,[2]—the subjects, therefore, of Zoanthropia,—and fled away in order that they might not be harnessed to the chariot or plough. Prætus is represented as applying to Melampus, to cure his daughters of insanity; but Prætus refused to employ him when he demanded a third part of his kingdom as a reward,—a fee reminding us of the enormous sums received by Willis for his attendance on George III and the Queen of Portugal. This neglect of Prætus was punished, and the madness became contagious among the Argive women.[3] The persons affected, however, as

Nobler, higher was the passion
O'er their raptured spirits stole."

[1] In Dr. Smith's Classical Dictionary it is stated that, in the earliest times, the Graces, or Charites, were the companions of Dionysus (Bacchus); and at Olympia, he and the Charites had an altar in common. This circumstance is of great interest, and points out the great change which took place in the course of time, in the mode of his worship; for afterwards we find him accompanied in his expeditions by Bacchantic women, called Lenæ, Menades, &c., all of whom are noted in works of art as raging with madness; in vehement motion, their heads thrown backwards, with dishevelled hair, and carrying in their hands thyrsus staffs, &c.

[2] To this Virgil refers, Ec. vi, 48, "Implerunt falsis mugitibus agros."

[3] Lempriere's Classical Dictionary.

also the daughters of Prætus, were restored to reason, on Melampus being feed in a more liberal manner.[1]

We learn from Grecian mythology, that Athamas, king of Thebes, in Bœotia, pretended that his wife was insane, in order that he might marry Ino; and subsequently became himself actually mad, and fancied Ino to be a lioness and her two children whelps. According to others, Ino was really insane, and destroyed her own children. Thus, Euripides, in Medea:

> The annals of past times
> Record but one, one only furious dame,
> Who plunged her hands in her dear children's blood:
> And heaven-sent madness had o'erturned the sense
> Of Ino, by the wife of Jove driven forth.
> And wandering from the house; when she had slain
> Her sons, as o'er the sea-beat beach she roved,
> She rushed into the waves, and perished with them.[2]

The revengeful anger which urged Medea, the niece of Circe, to destroy her own sons, is usually regarded as the result of insanity; but it scarcely bears this interpretation. It is true, that, in regard to the murder of her rival in the affections of Jason, the messenger in the drama thus interrogates her:

> What say'st thou? Has thy mind its perfect sense,
> Or is this madness?[3]

But the whole moral of the tragedy is weakened by such a supposition; and, indeed, there are few of the true characters of madness in the actions of Medea.

References to madness also occur in the Ion of Euripides, but it would occupy too much space to cite all the allusions of the Greek dramatists to this malady.

In addition to the reference previously made to the records of sacred history, it is worthy of remark, that throughout the Mosaic law, no provision is made which recognizes the possible occurrence of madness; nor, in the historical portion of the Pentateuch, is there

[1] Thus Ovid.—per carmen et herbas
Eripuit furius. Met. xv, 325.

[2] See also, Ovid, Metam. i, 4.

[3] The foregoing translations are, with one exception, from POTTER. As, in some instances, the interest and appropriateness of these references depend upon the Greek words employed, the student would do well to consult the original.

any example of madness described or referred to. It might perhaps have been expected, that certain degrees of imbecility would be enumerated among other diseases, as disqualifying for the priest's office; but there is no evidence of this provision having been necessary; nor, again, is there any reference made, in the Old Testament, to those who were possessed. Josephus, however, says, that Solomon left behind him those means of exorcising demons, which were so effectual as to prevent their return; and that his method of cure was handed down to his day. "For days," says he, "I saw one Eleazar, my countryman, in the presence of Vespasian and his sons, and many tribunes and other soldiers, deliver men who were seized by these demons. The cure was in this manner: applying to the nostrils of the demoniacs a ring, and one of those roots, of which Solomon taught the virtues, he drew out the demon at the nostrils of the man. The man presently falling down, he mentioned Solomon, and reciting the charms composed by him, he adjured the demon never to return more." We have assumed, in these remarks, that demoniacal possession has an important bearing on insanity; because, amidst the conflicting hypotheses upon this question, we believe that one of two views must be adopted; either of which equally warrants this assumption. Either those supposed to be possessed by devils were laboring under simple madness, the result of natural causes; or they were madmen, the exciting cause of whose malady was the Evil One. In either case, the symptoms were those of madness.

In the sixth century before the Christian era, history presents to us a memorable example of madness, in the person of Cambyses.[1] Herodotus thus refers to him: "It is indeed said, that Cambyses from his birth, labored under a powerful malady, called by some the sacred disease (epilepsy). No wonder, then, that, as his body was so much distempered, his mind should not be sound." The Persians had accused Cambyses of being insane, in allusion to which, addressing Prexaspes, he says, "Now yourself observe whether the Persians speak truly, or whether, in saying such things of me, they are not themselves insane; for if I strike your son to the heart, as he stands there in the vestibule, it will appear that the Persians have no ground for what they affirm; but if I miss my aim, the Persians will prove they are in the right, and that I am not of sound mind. So saying,

[1] In the same century, L. Junius Brutus feigned insanity, according to good authorities. Others have disputed it (*vide* Smith's Dictionary of Greek and Roman Biography, Art. Brutus).

he bent his bow, and hit the youth, who fell dead. Cambyses then ordered the body to be opened, and the wound to be examined; when the shaft was found in the heart. 'There, Prexaspes,' said he, laughing, and in high glee, 'it is proved to you that I am not mad; but that it is the Persians who have lost their wits. Now tell me, did you ever know a man hit his mark so nicely?' Prexaspes, perceiving that he had to do with a madman, and fearing for his own life, replied, —'My lord, I really think that a god could not have shot better.' In a like temper, on another occasion, he seized twelve Persians of high rank, and buried them alive up to the head. From all these instances, it is evident to me that Cambyses was truly deranged; for otherwise he certainly would not have attempted to make sport of things sacred, and of established usages." When desolating Egypt, he plunged his dagger into the sacred bull Apis. "After this brutal deed," says Grote, "Cambyses lost every spark of reason that yet remained to him, and the Egyptians found in this visitation a new proof of the avenging interference of their gods."[1]

To the example of Cambyses may be added that of Cleomenes, king of Sparta, who is stated to have killed himself in a fit of madness, 491 B. C. To him Herodotus thus refers. "The Lacedemonians, informed of the intrigues of Cleomenes, were influenced by their fears to place him again on the throne; and they restored to him all his former prerogatives. But, presently after his return, he was seized with a frenzy, to which indeed he had before been liable. With his sceptre he would strike in the face any Spartan he happened to meet. On observing this insane conduct, his family confined him in stocks. While so bound, it happened, that seeing himself left with a single attendant, he asked him for a knife; the man at first refused, but being a helot, was at length intimidated by his threats, and gave him one. Cleomenes, seizing the weapon, began to hack his legs, making long gashes in the flesh; from the legs he ascended to the thighs, and from thence to the hips and loins; and then reaching the belly, made many deep incisions, and so died.

The Spartans say, that Cleomenes contracted a great intimacy with the Scythians, who came to Sparta on (state) business,—a too great intimacy, for he learned from them to drink unmixed liquors; and it was from this cause, as they believe, that he became mad."[2]

[1] Grote's Hist. of Greece, vol. iv, p. 296.

[2] Taylor's Herod. p. 443. Herodotus speaks of a large number of persons in Scythia being attacked with wolf-madness.

Pythagoras, who is supposed to have lived in the sixth century before Christ, was acquainted with epilepsy; hence, it has been justly inferred, that he must have been acquainted with madness, seeing that the former so frequently induces the latter.

It is to the writings of Hippocrates, however, who flourished about a century later, that we naturally turn with the greatest interest, not only because two thousand two hundred years have elapsed since he lived, but because so acute an observer, and accurate a writer, was not likely to overlook any striking disease. He lived in the palmy days of Greece. "He had for his contemporaries," observes Dr. Adams, "Pericles, the famous statesman; the poets Æschylus, Sophocles, Euripides, Aristophanes, and Pindar; the philosopher Socrates, with his distinguished disciples, Plato and Xenophon; the venerable father of history, Herodotus, and his young rival, Thucydides; the unrivalled statuary, Phidias, with his illustrious pupils; and many other distinguished names, which have conferred immortal honor on the age in which they lived, and exalted the dignity of human nature. . . . If we may believe oriental chronology, Confucius and Zoroaster had gone off the stage of life only a very few years before the dawn of this celebrated age of Grecian superiority in the arts and sciences."

In one of his aphorisms, Hippocrates appears to recognize the common observation of the comparative insensibility of the insane to pain. "Persons," says he, "who have a painful affection in any part of their body, and are, in a great measure, insensible of the pain, are disordered in intellect."[1] In another, he acknowledges the influence of the seasons. "The diseases of spring are, maniacal, melancholic, and epileptic disorders," &c.[2] In a third, the beneficial effect of the supervention of other diseases is referred to. "In maniacal affections, if varices or hæmorrhoids come on, they remove mania."[3] "Dysentery, or dropsy, or ecstasy, coming on madness, is good." Dr. Adams states that, by "ecstasy," commentators understand a violent exacerbation of the maniacal symptoms, which brings the disease to a crisis.[4] Again, he defines melancholia, when he says that, "if a fright, or despondency, last for a long time, it is a melancholic affection;"[5] and tells how prognosis is affected by the age of the patient, in the aphorism that, "persons above forty years of age who are affected with phrenzy, do not readily recover; the danger is less when the disease is cognate to the constitution and age."[6]

[1] Sect. ii, 6. [2] Sect. iii, 20. [3] Sect. vi, 21.
[4] Sect. vii, 5. [5] Sect. vi, 23. [6] Sect. viii, 82.

In the following remarkable passages, Hippocrates gives us his views of cerebral physiology, and of the pathology of insanity. "Men ought to know," he says, "that from nothing else but thence (the brain) come joys, despondency, and lamentations. And by this, in an especial manner, we acquire wisdom, and knowledge, and see and hear, and know what are foul and what are fair, what are bad and what are good, what are sweet, and what unsavory; some we discriminate by habit, and some we perceive by their utility. By this we distinguish objects of relish and disrelish, according to the seasons; and the same things do not always please us. And by the same organ we become MAD and delirious, and fears and terrors assail us, some by night and some by day; and dreams and untimely wanderings, and cares that are not suitable, and ignorance of present circumstances, desuetude, and unskilfulness. All these things we endure from the brain when it is not healthy, but is more hot, more cold, more moist, or more dry, than natural, or when it suffers any other preternatural and unusual affection. And we become MAD from humidity (*of the brain*). For when it is more moist than natural, it is necessarily put into motion, and the affected part being moved, neither the sight nor hearing can be at rest, and the tongue speaks in accordance with the sight and hearing. As long as the brain is at rest the man enjoys his reason; but the depravement of the brain arises from phlegm and bile, either of which you may recognize in this manner: those who are mad from phlegm are quiet, and do not cry out or make a noise; but those from bile are vociferous, malignant, and will not be quiet, but are always doing something improper. If the madness be constant, these are the causes thereof. But if terrors and fears assail, they are connected with derangement of the brain, and derangement is owing to its being heated. And it is heated by bile when it is determined to the brain along the blood-vessels running from the trunk, and fear is present until it return again to the veins and trunk, when it ceases. He is grieved and troubled when the brain is unseasonably cooled, and contracted beyond its wont. It suffers this from phlegm; and from the same affection the patient becomes oblivious."[1]

Who does not read with interest the report which Hippocrates gives of a case of melancholia occurring in Thasus? The patient, a woman, lived near the Pylades, upon the plain. She was "of a melancholic turn of mind, and from some accidental cause of sorrow,

[1] The Sacred Disease; Works of Hippocrates, Sydenham Soc. vol. ii, p. 855.

while still going about, became affected with loss of sleep, aversion to food, and had thirst and nausea." The attack was acute, and passed away in a few days, there being "about the crisis a copious menstruation." On this case Dr. Adams observes, that the only thing of importance in Galen's commentary, is the remark that the woman's melancholy was most likely connected with suppression of the menses.[1]

These are the most important, and nearly all the references made by Hippocrates to madness. It must be confessed that, on the whole, they are rather scanty, and would seem to indicate that he had not occasion to treat mental maladies to any very great extent. He distinguished, however, between mania (*μανία*), melancholy (*μελαγχολία*), and a state of dementia (*παράνοια*). We have not cited any of the references made to insanity in the treatises *De Morbis*, on account of the doubtful authenticity of these books; as, however, they are very ancient, it is interesting to observe that melancholy is here referred to. The writer describes "the anxiety of those who labor under it, their love of solitary places, their fears, the frightful dreams by which they are tormented, the malaise they suffer from when their stomach is empty, or too full."[2] Trelat quotes from Hippocrates the following, which, however, we have not been able to find in his works. "A continual and unaccustomed irresolution, a change in the voice,—especially if it becomes bawling and ill regulated,—a trembling of the tongue, a hesitation in the speech, announce alienation." We might recognize here the symptoms of incipient general paralysis.

Diocles (B. C. 300) discussed in his writings, several points relating to some of the various forms of mental disease.

Asclepiades, as we shall see, entered largely into the subject.

The references made incidentally by the Roman poets to insanity are frequent. Many pages might be filled with citations from Ovid, Plautus, Horace, Virgil, and others. The citizen of Argos, so graphically described by Horace, is a remarkable example of the presence of intellectual, without moral alienation of mind.

> Fuit haud ignobilis Argis,
> Qui se credebat miros audire tragœdos,
> In vacuo lætus sessor plausorque theatro;
> Cætera qui vitæ servaret munia recto
> More; bonus sanè vicinus, amabilis hospes,

[1] Works of Hippocrates, vol. i, p. 416 (Epidemics, Book iii, case 11).

[2] Cited from Trelat, not having other than the genuine works of Hippocrates at hand.

Comis in uxorem; posset qui ignoscere servis,
Et signo læso non insanire lagenæ:
Posset qui rupem et puteum vitare patentem.

The allusion to the treatment pursued in this case, by expelling the bile and the disease together, is also of interest:

Hic ubi, cognatorum opibus curisque refectus
Expulit elleboro morbum bilemque meraco,
Et redit ad sese, &c.

The well-known proverb, *naviget anticyram*, referring to the hellebore for which this place was so famous, is to be found in the Satires of this poet.[1]

Lastly: the words, insanus, amens, delirus, demens, dementia, &c., are of frequent occurrence in the pages of Horace.

Ovid refers to Anticyra:

Littus ad Euxinum, si quis mihi diceret, ibis,
Et metues arcu ne feriare Getæ;
I, bibe, dixissem, purgantes pectora succos;
Quiquid et in toto nascitur Anticyra.

The same poet, in his Metamorphoses, makes several references to illusional forms of insanity.

Persius, in his bold satire on Nero, coolly advises him to resort to the use of hellebore![2]

Quin tu igitur summa nec quicquam pelle decorus
Ante diem blando eandem jactare popelo
Desinis, Anticyras melior sorbere meracas?

And in the third satire he makes a passing allusion to the madness of Orestes:

. . . . dicisque facisque quod ipse
Non sani esse hominis, non sanus juret Orestes.

In Juvenal we find many allusions to the use of hellebore as a medicine for the cure of insanity, and to the celebrity of Anticyra.[3] To these the reader is referred.

[1] Lib. ii, 3, 166. See also De arte Poetic. v, 300 (Tribus Anticyris caput insanabile, &c.), and Sat. iii, Lib. ii, v, 82.

[2] See also Sat. v, 100.

[3] Juv. Sat. xiii, 97. Sat. vi, 619, &c.

CHAPTER II.

OPINIONS OF ANCIENT MEDICAL WRITERS ON THE TREATMENT OF THE INSANE.

Music is the first recorded remedy employed, so far as we are aware, for the relief of madness. That ancient musician, of whom it has been said that he struck tones that were an echo of the sphere harmonies, "took an harp and played with his hand; so Saul was refreshed and was well, and the evil spirit departed from him."[1] Music appears, also, to have been strongly recommended by Asclepiades.

References to the *treatment* of insanity in the works of Hippocrates are few in number. The treatise concerning hellebore, ascribed to him, is not admitted among his genuine works by the learned Dr. Adams. Nor does it make any allusion to its administration in insanity. This, however, is distinctly referred to in the correspondence between him and Democritus. "I am persuaded," says the latter, "that if to me you should give hellebore to drink as to the insane, it would be right that the insane should escape it; and, according to your art, you would have blamed it as being itself the cause of madness. For hellebore, when given to the sane, pours darkness over the mind, but to the insane it is very profitable."[2] Now, although these letters have been regarded as supposititious, there is considerable evidence in their favor; at all events, their great antiquity cannot be disputed; and, as Dr. Adams observes, "that Hippocrates visited Abdera, and that he was familiarly acquainted with Democritus, are facts which the most skeptical critic will hardly venture to call in question."[3]

[1] 1 Sam. xvi, 23. [2] Works of Hippocrates, Frankfort edition, 1595.

[3] Works of Hippocrates, Sydenham Society, vol. i, p. 128. For the genuineness of the treatise professing to treat specially of insanity, and published in some portions of the works of Hippocrates, there appears to be no authority.

In the doubtfully genuine treatise *Of the Places in Man*, the writer says, "A draught made from the root of mandrake, in a smaller dose than will induce mania, should be administered to the suicidal maniac." Also, in the work *Of Diseases*, which, whether written by Hippocrates or not, is of great antiquity, the author prescribes for melancholy persons—a tranquil and regular life, the absence of all excesses, sobriety, a vegetable diet, food but little seasoned, continence, exercise short of fatigue, and never in the sun, and bleeding. "When the head is gorged with blood," says he, "patients are sometimes as if they were intoxicated; it is then necessary to open a vein. But, then, we often make fruitless attempts to take away much blood, when there is but little in the affected organ."

From the time of Hippocrates down to that of Asclepiades (the founder of the School of the Methodici), but little evidence is afforded of the treatment to which the insane were subjected. Aristotle and Diocles are, however, represented as recommending the application of cold, from the belief that heat is the cause of the complaint.[1]

Asclepiades was certainly one of the most definite in his directions in regard to the treatment of the insane. As we have already said, he prescribed music. He especially recommended that the patient should abstain from food, drink, and sleep, in the early part of the day; that, in the evening, he should drink water; that then gentle friction should be applied, while, later still, liquid food should be given, with a repetition of the frictions.[2] By these means, sleep was supposed to be induced. He regarded as worse than useless, the application of narcotic fomentations, referring specially to hyoscyamus, mandragora, and poppies. Such reference to these remedies is interesting, as showing their use prior to the time in which he flourished. He directed that the patient should be placed in the light. To employ bleeding was, he thought, little short of murder. According to Cælius Aurelianus, Asclepiades ordered his patients to be chained.[3]

Feuchtersleben, in his *Medical Psychology*, states, that Asclepiades recommends "that bodily restraint should be avoided as much as possible, and that none but the most dangerous should be confined by bonds;" referring to Celsus and Cælius Aurelianus as his authorities for the opinions of Asclepiades (whose works are lost); but neither of these writers appears to assert so much. The latter says,

[1] Cælius Aurelianus De Morbis acutis et chronicis. Amsterdam, 1709, p. 336.

[2] Celsus de Med. lib. iii, cap. xviii.

[3] Op. cit. p. 339.

"Asclepiades officiis solitis amoveri jubet ægrotantes, *et vinculis constringi*, et abstinentia ciborum nimia coerceri, et siti affici, tum vino corrumpi vel in amorem induci."[1]

Thus, although he prescribed "vinum vel amor," he scarcely merits the praise which Feuchtersleben has bestowed upon him, when he observes, that he did not withhold his well-known motto, *Cito tuto et jucunde*, from the therapeutics of insanity. According to this writer, Asclepiades recommended that books should be read to the patient in an inaccurate manner, in order that he might be induced to correct the mistakes. His disciple, Titus, also enumerates stripes among the curative agents in the treatment of mania; and it would not be unfair, perhaps, to conclude that the practice was not unknown to his master.

Themison, another disciple of Asclepiades, and who is often regarded as the real founder of the School of the Methodici, styled "phlebotomotos," by Cælius, followed, to a considerable extent, in the steps of his predecessor, as regards treatment; but prescribed the bath and a more liberal regimen, and ordered astringent fomentations (constrictiva fomenta).

The treatment recommended by the celebrated Celsus, in his chapter entitled, *De tribus insaniæ generibus*,[2] may next be considered. On the whole, the directions of this physician are harsh, and scarcely merit the praise which some authors have bestowed upon them. It is true, that he admits, in regard to those who ramble in their discourse, or attempt some trifling injury with their hands, that it is unnecessary to employ any rough, coercive measures. He deemed it proper, however, to subdue those who were more violent, by a very compulsory treatment, "lest they should injure themselves or others." Their audacity must be coerced, and they must be brought to submission by blows, as in the case of any one else who requires restraint. Excessive mirth must be checked by scolding. If conciliatory measures fail, patients much be cured by some kind of torment; thus, should they be detected in falsehood or deceit, they must be hungered, or bound in chains, or flogged (*fame, vinculis, plagis, coercendus est*). By these means, he assures us, they will before long, through the influence of fear, be thoroughly disposed to come to terms, to eat anything, and even their memory, he says, will thus be refreshed. For, to startle them suddenly, and greatly to

[1] Cælius Aur. op. cit. p. 339.

[2] Lib. iii, cap. xviii. Celsus is supposed to have been born, B.C. 30.

terrify them, is profitable in this disease;—anything, in short, by which the mind is violently disturbed! To close up all the avenues of pity, this humane physician also says, that you are not to believe any one who, thus subdued, while he is desirous of being released from his bonds, pretends that he is sane, however prudently and piteously he may converse, since this very deceit is the result of madness. On which enlightened principle, it is difficult to understand how Celsus himself would have escaped, had he once been so unfortunate as to be suspected of insanity.

Celsus, by no means, however, overlooked all medical treatment. He approved of venesection, and of cupping applied to the head, which, he observes, will have the effect of inducing sleep. Should any symptom render bleeding unsuitable, the next best remedy is abstinence, followed by an emetic and a purgative of white hellebore, and, if possible, the employment of friction twice in the day. He is here speaking of those cases in which sadness appears to be the result of black bile. No longer under the influence of apprehension from the violence of the patient, Celsus directs that fear should be removed from his mind, and cheerful hopes excited; pleasure being sought in fables and sports, and whatever else may be conducive to health. Patients are to be judiciously encouraged in their several occupations, and their groundless fears are to be lightly reproved. Cold water is also to be poured upon the head of the patient, and his body immersed in water and oil. In maniacal cases, warm fomentations might be applied to the shaven head. When, in consequence, the febrile symptoms abate, we are to have recourse to friction; but we must use it more sparingly in those cases in which the patients are exhilarated, than in those in which they are depressed. In the maniacal paroxysm itself, however, Celsus had not much faith in medical applications; indeed, he was afraid that by such means the fever would be increased. Therefore, in such cases, says he, do nothing with the patient but confine him.

Severe as was Celsus upon the insane who were guilty of deception, he had no hesitation in employing similar means towards the patient. We need not quarrel with the direction, that, should the patient refuse to swallow the doctor's favorite hellebore mixture, he is to be deceived by having it mixed in his food; but we may well dissent from the propriety of another direction, namely, that, should it be necessary to inspire fear, and should the patient be a rich man, you are to announce to him the false intelligence of a lost estate.

The good effect of a full diet, in some cases of insomnia, was very properly pointed out. Other somniferous remedies prescribed by Celsus were, friction, exercise after food, and by night; the sound of a waterfall; but chiefly the rocking motion of a suspended bed. Nor were the soothing influences of music, in melancholy, overlooked. The mind was also to be called forth, in some cases, by reading aloud; and occasionally errors might be made, in order to elicit the critical powers of the patient.

The next authority to whom we may refer, in point of time, is Soranus, who, according to Fabricius, was born at Ephesus, A. D. 98. The works of Soranus which have reference to insanity, are lost; the opinions expressed by Cælius Aurelianus are, however, attributed to him; but it is difficult to determine the extent to which he is a translator or an original writer.[1] We cannot unite in the opinion expressed by Trelat, that he received from posterity all the honor which was due to Soranus. A difference of opinion exists, as to the interval which elapsed between these two writers, the confusion in part arising from there having been at least four physicians of the name of Soranus. By some, Cælius is stated to have lived in the first century of the Christian era; by others, he is placed a century later. It has been thought that he was a cotemporary, or rival, of Galen, because that writer nowhere alludes to him.

In presenting the opinions of Cælius Aurelianus, we shall, to some extent, be supplementing what has already been said of the Greeks, inasmuch as they are, in a considerable measure, a reflection of the treatment pursued by them. It has been found impossible, in all instances, to distinguish between his own opinions and practice, and those of the Greeks; and, as regards the latter, to decide to what period of Grecian history he refers.

Cælius regarded it as essentially necessary to place the maniacal in a room moderately light and warm, and to avoid everything of an exciting character; pictures were not to be allowed; nor was the window to be too high, nor was the room to be in the upper story, the reason being added, that many, when seized with madness, have thrown themselves out. The bed was to be firm, and so placed that the patient could not be disturbed by the sight of persons entering the room; it was to be of straw, soft, and well beaten, but not broken. If the patient was in danger of injuring himself, soft wool,

[1] The passage which appears to support the former view, is as follows: "Soranus vero cujus hæc sunt latinizanda suscepimus," &c.

moistened, was applied to the head, neck, and chest. Thus, instead of having a padded room, Cælius padded his patient. The duty of attendants, in regard to deception, is clearly laid down. They were to beware, on the one hand, of seeming to confirm the patient's delusions, and thus increase his disorder; and, on the other, they were to be careful not to exasperate him, by too much opposition; but at one time by indulgent condescension, at another by insinuation, endeavor to correct his delusions. Should the patient attempt to escape, and be with difficulty restrained, or exasperated with seclusion, then, says Cælius, with admirable perception, you must employ more attendants. Let these, he adds, without the patient perceiving the real object in view, engage themselves in applying friction to his limbs. Further, should this treatment fail, and the violence be great, a ligature (ligatio) may be resorted to, being quietly applied, and the limbs protected by wool. Should the patient have been accustomed to submission and reverence, this, he observes, will not require frequent repetition—for such repetition would induce contempt, and when patients do not yield to such a course of treatment, then it becomes necessary to subdue them by inducing fear or awe. Should the patient's eyes be affected by the light, they must, according to our author, be shaded; but, he adds, with great discrimination, in such a way that other parts of the body may not be deprived of light. We have already noticed the views of Asclepiades, regarding abstinence. Cælius directed that abstinence from food might be carried so far as to induce slight hunger; adding, that the strength may be reduced by bleeding, if the malady require it, even during such abstinence, should there be nothing present to contra-indicate it. The food was to be light and digestible, as bread softened in warm water, or a preparation of wheat, lightly boiled with honey, &c. Alternate days of fasting and feeding were likewise recommended. Benefit also might be derived from clysters, and the application of an emollient cataplasm to the region of the heart. The necessity of distinguishing the particular form of insanity was pointed out by Cælius.

Should the disorder become stationary, Cælius advises the head to be shaved, and cupping to be applied, first over the chest, then between the shoulders ("for these parts sympathize with the head"), and next to the head. A restless and sleepless condition was to be relieved by carrying the patient about on a litter or in a chair. To this was to be added the monotonous sound of running water. Fomentations, by means of warm sponges, were to be applied over the eye-

lids, with the idea of relaxing them, and in the hope of exerting a curative influence over the meninges of the brain. As reason returned, moderate exercise was strongly recommended,—riding, walking, and exertion of the voice. The patient was to read compositions containing inaccuracies, in order the better to exercise the understanding; but Cælius adds a caution that this must not be too difficult, lest the patient be overdone with laborious mental exercise, which were as detrimental to the mind as immoderate exertion to the body. Theatrical entertainments were to follow for those laboring under melancholy, and scenes of a solemn or tragic character were to counteract excessive hilarity and excitement. "Oportet enim *contrarietate* quadam alienationis corrigere qualitatem, quo animi quoque habitus sanitatis mediocritatem agnoscat." Subjects of disputation might be added as the patient recovered, conducted in a low tone of voice, the preference being given to narrative and demonstrative subjects. Further, individuals known to the patients were to be employed to converse with them, in a manner calculated to encourage and amuse them. These various mental exercises were to be followed by rubbing with oil, and a gentle walk. Here our author suddenly remembers, that much of the preceding treatment could not be carried out with the illiterate; for such, he prescribes questions, having reference to their particular callings,—as on farming for the agriculturist, navigation for the sailor; and for those ignorant even of these, questions of a general nature must be propounded.

Shampooing, as well as inunction, was an important remedy with Cælius, including frictions of the head. The diet was to be improved as the patient's health returned; wine being forbidden in the first instance, gradually allowed after the use of fruits, but then only of light quality.

As the mind recovered its tone, the patient was allowed to go and hear the disputations of the philosophers, from the persuasion that the passions of grief, fear, and anger, were thus dissipated. If, on the contrary, the patient relapsed, the former treatment was to be resumed, adding sternutatories, depilatories, a mixture (alkaline and stimulant), and exposure of the body to the heat of the sun, the head being covered. The administration of an emetic made from the root of white hellebore was to be added, to which, if the patient objected, vomiting was to be promoted by tickling the fauces. The ears were to be injected with water containing a little nitre, honey, nettle-seed, or mustard; the *rationale* given being that even through

the channels of the senses, a restorative virtue may be conveyed to the membranes of the brain, especially as patients are often affected with tinnitus aurium. Finally, the cure of the patient was to be established by travelling and sea-voyages.

After thus stating the mode of treatment which recommended itself to his judgment, Cælius proceeds to condemn the practice of some who had preceded him. Some of the Methodici, he observes, have recommended close confinement in a dark room, forgetting, that the patient's dislike to it may aggravate his disorder, and that too much seclusion from the air causes dense bodies to perspire, and that the omission of ordinary occupations will aggravate cerebral congestion. He then denounces the extreme abstinence which was recommended, in forgetfulness of the fact, that such a course disorders the bodily powers, and is one which the patient will be unable to bear. The supporters of such a regimen referred to the taming of wild beasts as analogous, and as a proof that madness may be thus repressed; but Cælius, anticipating the practice of the present day, retorts that they should have known better, from a consideration of the effect of hunger upon the sane, in inducing rage. He does not hesitate to assert, that the starving system will induce madness rather than cure it. He then refers to a subject of especial interest to us in our time, and his observations are calculated to humiliate us, exhibiting, as they do, a far-seeing philanthropy which those who have treated the insane have, until very recently, failed to imitate. Cælius observes, that they also order the patients to be bound with chains, without any consideration that the bound parts must necessarily be chafed, and how much more properly the patients might be restrained by the care of attendants than by senseless chains.[1]

He is alike indignant against those who would coerce by flagellation, especially about the face and head, which, so far from relieving the disease, only induces swellings and sores; in addition to which, the returning consciousness of the patient could not but be hurt by the sense of his wounds.

In regard to the relative advantages of cold and warm applications, Cælius speaks of those who endeavor to induce sleep by warm fomentations of poppy, thyme, roses, &c., and observes, in accordance with the view attributed by Celsus to Asclepiades, that the result is heavi-

[1] "Jubent præteria *vinculis* ægrotantes coerceri, sine ulla discretione, cum necessario devinctæ partes quatiantur, et facilius sit ægros *ministrantium manibus*, quam inertibus vinculis retinere."

ness of the head, but not sleep—constriction being induced, when relaxation is required. He then refers to an opposite school, who made use of cold applications, believing the disorder to be caused by heat; ignorant, he observes, that internal heat is an undoubted sign of congestion, and not, as they think, the cause of the disease. He condemns the hydropathic treatment as being calculated to increase congestion, and therefore to aggravate the patient's disorder.

In regard to the important question of venesection in mania, Cælius comments upon the practice of those who employed excessive bleeding from both arms to the extent of syncope, and even death, and observes, that the abstraction of blood from both arms is not to be practised, in consequence of the fearful prostration of strength which may follow. Clysters he regarded as worse than useless, often inducing dysentery, in consequence of the active ingredients which they contained.

Among the many strange and opposite modes of treatment to which, as if in despair, the insane have been subjected, intoxication was not overlooked. Some, our author observes, recommend intoxication, since madness is often caused by it;[1] and music, but without sufficient discrimination, since, injudiciously used, it may prove injurious. The pleasures of love, which were prescribed by Titus and Themison, were strongly condemned by Cælius, who regards as impious and absurd, the attempt to indulge propensities which required restraint.

In the chapter which treats of melancholy, Cælius observes, that the treatment is the same as has been already prescribed for the maniacal. He would not bleed; nor depress the patient by purging him with hellebore and aloes, but at once soothe and invigorate him by emollient and astringent applications.

The exact period when Aretæus flourished is a matter of doubt. Dr. Adams regards him as cotemporary with Galen. He probably wrote about the time of Cælius Aurelianus; but this remains doubtful, so long as writers differ as much as a century in assigning the date of the latter. Aretæus only speaks of the cure of melancholy. Here he recommends bleeding from the right elbow to relieve the liver; "for this viscus," he observes, "is the fountain of the blood and the source of the formation of the bile, both which are the pabulum of melancholy." But he wisely adds, that as the blood is the pabulum of Nature also, venesection must be moderate, "lest she, too, be ejected

[1] "Alii inebriandos aiunt ægrotantes, cum sæpe ex vinolentia furor atque insania generetur."

from her seat." After a day's fasting, two drachms of black hellebore were to be administered, in order to evacuate black bile. This purgation was followed by the bath, and cupping over the liver and stomach. The hiera from aloes he recommends to be given repeatedly, observing, that "this is the important medicine in melancholy, being the remedy for the stomach, the liver, and the purging of bile." After these remedial measures, which Aretæus characterizes as "sufferings," the patient is to be recruited by frequenting the natural hot baths, the medicinal substances in which, as bitumen, sulphur, and alum, he regarded as highly beneficial. Gentle frictions with oily liniments were also recommended, exercise and a diet of eggs, fowls, hares, and the lean parts of other animals.

We may conclude our reference to the practice of this physician, with his remarks by way of excuse for failing to be successful in the treatment of all cases of melancholy.

"It is impossible, indeed, to make all the sick well; for the physician would thus be superior to God; but the physician can produce respite from pain, intervals in diseases, and render them latent. In such cases, the physician can either decline and deny his assistance, alleging, as an excuse, the incurable nature of the disease, or continue to render his services to the last."[1]

The celebrated Galen, of Pergamos, flourished at a period but little subsequent to Cælius Aurelianus. He is said to have died at the age of ninety, A.D. 193. His treatment was based upon the humoral pathology, which was in such high repute among the ancients, and which exercised an almost universal influence on their practice. He lays it down that, if moisture produces fatuity, and dryness sagacity, just in proportion to the excess of moisture over dryness, the sagacity will be diminished. Hence, he advises the practitioner to aim, above all things, at preserving a just medium between these opposite qualities. He recommends that, "should you be of opinion that the whole of the patient's body may contain melancholy blood," you are to employ venesection, especially from the median cephalic vein. He adds that, should the blood flowing from it not appear to be of a melancholy quality, the vein must immediately be closed; and that, should the contrary be the case, you are to abstract as much blood as the state of the patient and his habit of body shall permit. If, however, madness arise from idiopathic disease of the brain, bleeding is by all

[1] The extant works of Aretæus, the Cappadocean. Edited by Francis Adams, LL D. 1856.

means to be avoided. In forming an opinion on this subject, regard was to be had to the patient's constitution and temperament. The fat, the fair, and the flabby, were not to be supposed to possess any melancholy humor; but the lean, dark, and hairy, and those in whom the veins are large, are the most subject to its accumulation. He gives a long enumeration of the kinds of food which induce melancholy,—as the flesh of oxen, goats, but especially asses and camels, and also wolves, dogs, hares, and snails. Among herbs, the cabbage only is mentioned. Thick and black wine was particularly to be avoided, "as from it the melancholy humor is made." This melancholy humor is spoken of by Galen as a condition of blood, "thickened, and more like black bile, which, indeed, exhaling to the brain, causes melancholy symptoms to affect the mind." We frequently also notice, he observes, that when yellow bile is contained in the stomach, the head is painfully affected; but it immediately recovers, when the stomach is relieved from bile by vomiting.

In mild cases of insanity, Galen prescribed the bath and nourishing food.

On the whole, we deem Galen a very inferior authority to Cælius Aurelianus, at least in regard to the practical treatment of the insane.

His book, entitled "De cognoscendis curandisque animi morbis," and consisting of ten short chapters, is a moral essay, and not a medical treatise. He treats of the method of controlling anger, and also the desires and appetites, by the exercise of reason, regarding insanity as the opposite of wisdom.

CHAPTER III.

MODERN CIVILIZATION IN ITS BEARING UPON INSANITY.

In the preceding observations we have rapidly glanced at the evidences existing of the extent of insanity among the ancients, and have passed in review the treatment, which they adopted in order to repress the violence of those laboring under mental disease. We now pass on to a somewhat similar inquiry in regard to the nations of modern times.

On no subject has there been more absurd and illogical reasoning, and more hasty generalization, than on the proportion of the insane to the population, whether in regard to various countries, or in regard to the same country at different periods of its history. The most obvious essentials for making correct comparisons are constantly disregarded, notwithstanding which the most important inferences are drawn with the utmost complacency, and apparently in entire ignorance of the fallacy which underlies such loose and worthless calculations. Even up to the present time, and in scientific journals, we are presented with a list of the numbers of lunatics in various countries; the conclusion being drawn that such numbers represent correctly the liability to insanity in these countries,—the difference sometimes ranging between one in a thousand and one in 30,000! Generally, the only basis for such calculations are the numbers of patients in lunatic asylums; yet it must be obvious that, in consequence of the very different provision made for the insane in different countries, such a basis as this is utterly fallacious. But there are other circumstances which vary most materially among different peoples, and which must be taken into account before we can arrive at anything like a satisfactory result; yet these have again and again been entirely overlooked. For example—the mortality of lunatics varies in the same country at different periods, and is greater in some countries than in others. Now let the reader sup-

pose that there were a law in Scotland that every lunatic should be put to death, when every means of cure had been resorted to for the space of five years, and suppose that no such law existed in England: it must be evident that a return of the number of lunatics in the two countries would exhibit a far larger proportion in England than in Scotland; while, at the same time, it is not less evident that precisely the same, or even a greater number, might become insane in the latter country than in the former. Although an extreme case by way of illustration is here supposed, the same error is in degree committed whenever the relative liability to insanity of two nations is endeavored to be ascertained, without any attempt being made also to ascertain the relative mortality of their lunatics. In other words, unless we can insure an entire similarity in the various circumstances of two nations, or of the same nation at two different periods, we must obtain statistical returns—not of the number of lunatics existing at any given period, but—of the number of cases occurring in a nation, as compared with the population. "The tendency to insanity in a class is expressed (as Dr. Farr observes) by the proportion that *become* insane."[1]

In our own country there are two reasons why the proportion of the insane to the population appears to be greater than was formerly the case. The first is, that the disease is recognized as such to a far greater extent than formerly; and the second is, that we know, to a much greater extent than heretofore, the number of the insane throughout the country. In the short period of nineteen years, the estimated proportion of the insane in England rose from 1 in 7300 to 1 in 769; a difference which led to the belief in the frightful increase of insanity, but which by no means warranted such a conclusion. The knowledge of an evil, and the existence of that evil, are two widely different things. Insanity may or may not have increased, but our increased knowledge of its extent is no proof that it has. Again, it is obvious that, should there be a larger number relieved by treatment and discharged from asylums for the insane, there will be a larger number of recurring cases. It follows, therefore, that if in the estimate of those who become insane these recurring cases are

[1] See also some excellent observations by Dr. Thurnam on this subject, "Statistics of Insanity," p. 171. He suggests that ultimately we may be able to employ a still more stringent test of the liability to insanity in any community—viz., the proportion of equal numbers living, of the same sex, and at different ages, who become for the first time insane.

included, the simple circumstance of curing a greater number of patients will be the very means of making it appear that a greater number of persons are attacked by insanity,—a greater number than would appear to be the case under more unfavorable circumstances.

Let us endeavor to form some conception—however far removed it may be from mathematical accuracy—of the numbers of the insane among some of those nations which we regard as civilized.

In France, the number of lunatics has been estimated at one in every 795.

In Norway, the proportion has been reckoned at one to 551.

Dr. Jacobi estimates the number of insane in the Rhenish Provinces as one in 666.

In England and Wales, we find, from the last Report of the Commissioners, that there were:

In Asylums and Hospitals,	21,344
In Workhouses,	6,800
Paupers with their friends, or elsewhere,	5,497
Total,	33,641

If, then, we take the population of England and Wales as 19,408,464, there is, at the present time, one insane person (or idiot) to 577. Distinguishing the sexes, we find the proportion among males to be one to 616, and among females one to 543. In these calculations, however, it must be remembered, that no account whatever is taken of the numbers of insane persons not reported to the Lunacy and Poor Law Commissioners. This number can of course only be guessed at. We cannot doubt, however, that were it fully known, it would, when added to the numbers already ascertained, exhibit at least a proportion of one insane (or idiotic) person to every 300 of the population.

The Report of the Commissioners appointed to visit the Asylums of Scotland, published in 1857, enables us to form some (though doubtless an imperfect) idea of the proportion of insane in that country. The population of Scotland in 1851 was 2,888,742, and the number of ascertained insane in 1855 was 7403—being a proportion of one in 390; and although it is true that the population has increased since 1851, and that this must be estimated; it is also true, as stated by the Commissioners, that this source of error is at least compensated for by the imperfection of the return of the number of lunatics.

We are not aware of any reason why there should be a larger pro-

portion of insane persons in Scotland, than in England and Wales; and we have little doubt that further investigation will not only show that there are at least as many insane in the latter as there are in the former, but that there exists a still higher proportion in Scotland itself than that which has just been stated.

This anticipation appears to derive additional support from the results of the census of the insane and idiots in Massachusetts, in 1854. From this it appears, that there was at that period one lunatic in every 427, and one idiot in every 1034 of the population—being a proportion of both, of one in every 302. In the County of Franklin (population 31,735), the proportion was one in 229, and in Duke's County so high as one in 159.

To compare the present extent of insanity, as indicated by these statistics, with the extent of insanity a century ago, would be a vain attempt. The means for making such a comparison do not exist. So far, however, as we regard ourselves as more civilized than our forefathers, so far the inquiry is affected by our conclusion regarding a question we shall now enter upon, namely, whether civilization favors or opposes the increase of insanity—whether, in fact, the barbarian or the civilized man be the more likely to fall a victim to mental disease.

This question may conveniently be regarded from two different points of view. Apart from the information to be derived from actual observation or statistical inquiry, it is manifestly very important also to inquire, whether the most frequent causes of insanity are to be found in greater force in civilized countries than in those which are not civilized.

There is no sufficient evidence to show that the brain, so long as it is not deprived of the ordinary range of exercise and stimulus which existence in the world necessarily presupposes and insures, has any tendency, from the want of systematic cultivation, to become diseased, however true it may be that moderate use develops and strengthens it. On the contrary, from every analogy we should predicate that the healthy condition of this organ would be endangered in proportion to the amount of work to which, beyond the limit referred to, it is subjected. The mental faculties are the thinking man's tools, constantly in use, and often necessarily subject to very rough usage, but still oftener to unnecessary wear and tear—their employer not unfrequently totally unaware that, in producing certain results, he is using any tools whatever. If the above position be well founded, the inference would seem clear, that the liability to mental disease is

greater (other things being equal) in a civilized and thinking people, than in nomadic tribes, or in any race whose intellectual faculties are but little called into action. Knowledge brings with it its miseries as well as its blessings. The tree in the Garden of Eden, which was "a tree to be desired to make one wise," was nevertheless the tree of the knowledge of evil, as well as of good. The tragical termination of the author of the "Old Red Sandstone," speaks loudly in confirmation of this. The fatal effects of an overworked brain would not have occurred, had he not substituted head-work for manual labor. "He has not wrought out his way," writes one who knew him well, "from the stone-mason's quarry to so distinguished a position in science and literature, without a life of incessant and wearing mental toil. In fact, he had worked much too hard and constantly; and although a man of sturdy physique, his brain was unable to stand the stress of his will, and the strain of his perseverance." It is not asserted, that the course of life which this gifted man pursued did not add immensely, on the whole, to his happiness. All that is here contended for is, that, had he not pursued that course, he would have been less likely to fall a victim to the particular disease of insanity. Civilization, with its attendant knowledge and education, creates social conditions, and offers prizes dependent solely upon intense intellectual competition, unparalleled in any former age, and of course unknown among barbarous nations, which of necessity involve *risks* (to employ no stronger term) which otherwise would not have existed.

> "Oh, sons of Earth! attempt ye still to rise,
> By mountains piled on mountains, to the skies?
> Heaven still with laughter the vain toil surveys,
> And buries *madmen* in the heaps they raise."

It may seem opposed to the importance which is here attached to overtasking the brain, that among the causes of insanity, as tabulated in our asylum reports, excess of study forms an insignificant item. Thus, in 472 cases in which the cause was traced by Esquirol, in 13 only is it referred to excess of study. But, even if this proportion be generally true, it is not to be forgotten that there are circumstances almost necessarily associated with it (excessive study) which are recognized by all as frequently productive of mental disease. Loss of sleep, by which the nutrition of the cerebral tissue is necessarily interfered with, is one of the most important of these. The health is, moreover, injured by the various attendants on sedentary

employments, and it cannot be expected that the brain should escape without a certain amount of injury. Besides, in many an over-stimulated child, or overworked student, there may be only sown the seeds of future mental disease. Other circumstances may cause the seed to germinate, and be regarded as the cause, instead of merely the occasion.

From these and other considerations, it is evident that excess of study may lay the foundation of many of those cases of insanity, in which statistics recognize only loss of rest and numberless other secondary causes.

It is sometimes remarked, in opposition to the view which is here taken, that our asylums are peopled with inferior, rather than highly intellectual minds. But this circumstance (if true) does not really militate against such a view, inasmuch as it is obvious that excess of study will be very likely to derange the former class, and leave the latter comparatively uninjured. Although, however, civilized society offers a striking contrast in regard to excessive intellectual exertion, to those which are sunk in barbarism, there is another point of contrast as remarkable, and which is to a much larger extent the generator of mental disease. No one word conveys an adequate idea of this altered condition. There is an acuteness of sensibility, a susceptibility of the emotions, an intense activity of the feelings, which would seem to be peculiar to highly-civilized life. The observation has, indeed, been made, that savage nations never shed tears, and rarely ever laugh. It would seem obviously to follow, from this cultivated condition of the higher sentiments, that external circumstances are much more likely to produce an impression upon them, to excite or depress them, and thus induce a shock under which the mind at last succumbs. Dr. Guislain forcibly observes, that "the people of European civilization, and of North American civilization, are, as it were, in a state of continual intoxication—intoxication of the emotions—intoxication of personal dignity—intoxication arising from constantly renewed impressions. It is not thus with those nations which most closely approach a state of nature; men who live far from the tumults of what we call the world." "The characteristics of such nations are—less affection, uniformity of manners and habits, the unchangeable character of social institutions, wants much more limited, the being inured to privations, a life in accordance with the instincts; a savage life, which enables them to support pain, to fortify themselves against suffering, to brave peril, and to contemplate death itself with courage and tranquillity of mind. Among such there is much more resignation, less inquietude, dread,

or apprehension. Such primitive people consider a display of the moral feelings, oratorical gesticulation, the gaiety so characteristic of Europeans, as so many proofs of madness. But we develop among ourselves a refined sensibility unknown among barbarous nations." It might be expected, then, that modern civilization would induce more insanity, not only or chiefly because there is more study, or purely intellectual labor, but because there is more emotion, and especially painful emotion, called forth. And this is entirely consistent with the position which we are disposed to take, that disease of the organ of the mind would be likely to increase in proportion to the work to which, beyond a certain point, it is subjected; the emotions being as much a component part of the mind as the pure intellect. To speak of civilization and the over-tasking of the intellectual powers as synonymous, is incorrect, and has often led to confusion as to the real question at issue. Civilization involves the over-tasking of the emotions, as well as, and sometimes independently of, the intellectual powers.

Regarding the causes of insanity under the division of moral and physical, it has generally been thought that the former considerably preponderate. Thus fear, grief, reverses of fortune, speculation, domestic trouble, pride, ambition, great successes of any kind, religious fanaticism, are all frequently productive of mental disease. And can there be any question as to whether the several sources of insanity which have been enumerated are more frequent among civilized than uncivilized nations? Barbarians know little comparatively of the over-tasking of the emotions to which we have referred. The loss of friends, the prospect of death, are with them matters of superficial and temporary concern; not of profound sorrow or anxious anticipation. Several years ago, an Esquimaux and his wife were exhibited in this country. On the voyage homeward the wife was taken ill and died. Such an event would have risked the mental equilibrium of an Englishman; but not so with the unimpassioned, matter-of-fact Esquimaux, who only considered how he could best repair his loss, and within a few days after his arrival at home provided himself with another wife! What, indeed, can be a greater contrast than that which is presented by the untutored savage, on the one hand, and the member of a civilized community, on the other? The former passes his time chiefly in the open air, engaged in hunting and other pursuits, requiring much physical and but little mental exertion; never exhausts his brain by thinking, suffers very slightly from grief and sorrow, and knows little of the anxieties and sufferings connected

with poverty. The latter, very generally, is obliged daily to infringe more or less the laws of health. He is subjected to "the steady, soaking intoxication of habitual over-work." If the brain demands rest, that rest is denied, and the brain, perhaps, goaded on by alcoholic stimulation. The very same person is possibly, also, the subject of ever-present anxiety and apprehension, in consequence of a precarious income. In a highly-civilized community, the highest standard of intellectual attainment is constantly presented to the aspirations of its members; and minds, without reference to calibre, promiscuously enter the lists of an unequal contest. From these and other points of difference, do we rashly draw the conclusion, that there are reasons for expecting a greater susceptibility to mental disorders among the civilized than the uncivilized nations of the world? Political commotions, also, may here be referred to as a cause of insanity but little known, or at least less felt, in uncivilized nations. In England, in America, and still more in France, they have had their share in adding to the number of inmates of our asylums. Dr. Webster attaches much importance to both political and religious movements, and instances the effect produced by the Crusades, the Reformation in Germany, the Low Countries, and Britain, the civil wars of England, and the domination of Puritanism under the Long Parliament and Cromwell; as also the Revolutions in France. "The influence of our political misfortunes," observes Esquirol, "has been so great, that I could illustrate the history of our revolution, from the taking of the Bastile to the last appearance of Bonaparte, by describing in a series, the cases of lunatics whose mental derangement was in connection with the succession of events."

In opposition to the view that civilization would seem, in many respects, to favor the development of insanity, it has been asserted by many writers (and among others by the author of the spirited article on "*Lunatic Asylums*," in the *Quarterly Review*), that there is a larger number of pauper lunatics in the agricultural than in the manufacturing counties. Were this, however, admitted to be the case, the inference which has been drawn by no means necessarily follows. In the agricultural districts (which are, by these writers, taken as the representative of savage life), there are to be found, as well as in the manufacturing districts, many of those very elements of modern civilization which are not found to the same extent in savage life; such, for instance, as the excessive use of alcoholic liquors, and the hard struggle to obtain an honest livelihood. Drink, and want, and consequent domestic suffering, produce their certain effects in

the generation of insanity, in agricultural as well as in manufacturing districts. It should, besides, first be shown by those who make this comparison, for this purpose, that there are not in other respects any essentially dissimilar conditions in the two districts. Indeed, Sir Andrew Halliday, in whom this statement originated, himself attributed the fact, in part to the circumstance of the women in agricultural districts laboring in the field during pregnancy. And Dr. Prichard suggests that the hard labor and low diet to which the males are subjected, may have an influence on the offspring propagated by them. But we do not think this line of argument need be further pursued. The *fact*, we believe, may be boldly denied. The statement is not established, that more persons become insane in agricultural districts, proportionately, than in manufacturing ones. Instead of taking the proportion of pauper lunatics to the pauper population in the respective counties, an estimate has been made of the proportion of pauper lunatics to the total population of the county. Thus, the following agricultural counties are taken: Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Herefordshire, Lincolnshire, Norfolkshire, Northamptonshire, Oxfordshire, Rutlandshire, Suffolk, Wiltshire; and, for the manufacturing districts, we have Cornwall, Cheshire, Derbyshire, Durham, Gloucestershire, Lancashire, Northumberland, Staffordshire, Somersetshire, West Riding of Yorkshire, Warwickshire. In the former group, the proportion of pauper lunatics to the general population, was found to be one in 820, while in the latter, it was only 1 in 1200. It must, however, be clear, that in those counties where pauperism is the greatest, there will of necessity be a larger number of pauper lunatics in proportion to the general population. For example, if we take Lancashire as a manufacturing, and Suffolk as an agricultural county, we find that the proportion of paupers to the population is in the former 3·3 per cent., and in the latter 6·9 per cent.[1] In the agricultural county,

[1] We may here observe, that we do not forget it may be objected, that, inasmuch as the mere circumstance of becoming insane frequently involves pauperism, we cannot arrive at any just estimate by a consideration of the varying extent of pauperism in different counties; it is clear, however, that the proportion of lunatics to paupers is comparatively so small, that the deduction of the total number of the former, would not materially affect the relative number of the latter in the several counties. Further, it may be here stated, that the proportion of pauper lunatics to paupers, subsequently to be given, cannot be taken as rigidly correct, because we fear that some diversity of practice exists on the part of those who make the returns. Our present object however, is gained if we succeed in showing *that there are no certain data on which to base the inferences that have hitherto been drawn.* Except for this purpose, the figures possess little or no intrinsic value.

therefore, the proportion of paupers is double that which exists in the manufacturing county, and consequently, there must be absolutely more *pauper* lunatics; but it by no means follows, that there are more pauper lunatics in proportion to the pauper population, nor that there are more lunatics in Suffolk than in Lancashire.

If, then, we work the proportion in accordance with the above principles (*i. e.*, proportion of pauper lunatics to total pauper population), we shall find that in Lancashire the proportion is 28·16 lunatics, and in Suffolk 11·31 to every 1000 paupers. And taking the two groups of counties selected by Sir Andrew Halliday, we shall find that the proportion of paupers to the general population is, in the agricultural counties, 59·98 per thousand, and in the manufacturing counties only 34·66, a difference of 25·32 per thousand. If, then, instead of calculating the proportion of pauper lunatics to the general population in these two groups, we ascertain the proportion of pauper lunatics to the total number of paupers relieved, we shall find that in the former the proportion is 18·37, and in the latter 23·60 per thousand, *the greater proportionate number of pauper lunatics being in the manufacturing districts.* The following table exhibits a similar calculation, made on a somewhat different arrangement of the agricultural and manufacturing counties (Jan. 1857):

AGRICULTURAL GROUP.	Proportion of pauper lunatics to pauper population (per 1000.)	MANUFACTURING GROUP.	Proportion of pauper lunatics to pauper population (per 1000.)
Leicester,	31·91	Lancaster,	28·16
Norfolk,	12·73	West Riding of Yorkshire,	23·33
Suffolk,	13·31	Durham,	19·86
Essex,	16·19	Chester,	26·74
Cambridge,	11·75	Derby,	32·91
Northampton,	23·69	Nottingham,	39·43
Hertford,	18·28	Northumberland,	19·66
Bedford,	22·56		
Buckingham,	12 44		
Oxford,	28·11		
Berkshire,	35·92		
Sussex,	17·54		
Wiltshire,	14·85		
Dorset,	10·85		
Somerset,	18·59		
North and East Riding Yorkshire,	24·49		
Average of agricultural counties,	18·37[1]	Average of manufacturing counties,	26·40

[1] By a singular coincidence, the average is the same, even to a fraction, whichever agricultural group is taken.

From which it will be observed that the proportion of pauper lunatics to the pauper population is greatest in the manufacturing counties, the excess being 8·03 p.m.

We see no reference either, to another important source of fallacy, in the calculations of those who have compared together the manufacturing and agricultural statistics of insanity. The mortality in large towns is greater than in rural districts. In a county, therefore, like Lancashire, the existing number of lunatics would appear to be smaller, than in a county in which the inhabitants live mostly in the country or small villages. Agricultural laborers are long-lived; and therefore lunatics accumulate among them, who would have died if resident in the manufacturing districts. Neison estimates that the mortality of the town exceeds, at the ages between 30 and 35, that of the rural districts, by nearly 15 per cent.

Such arrangement of counties, however, as would show their relative condition, in regard to learning, would appear to be more important in the present inquiry, than the distinction between agricultural and non-agricultural shires.

Now, in the first of the following group of counties, the largest number, according to the *Vital Statistics* of Mr. Neison, signed marriage-certificates with marks; while in the second the number signing with marks was at least 25 per cent. below the average. The proportion of pauper lunatics to the number of paupers is, it will be observed, considerably greater in the more educated counties. The calculations have been worked on the returns made in the Ninth Annual Report of the Poor-Law Commissioners. (Jan. 1857.)

Counties.	Proportion per 1000.	Counties.	Proportion per 1000.
Hertford,	18·28	Buckingham,	12·44
Monmouth,	19·70	Cumberland,	27·73
Bedford,	22·56	Surrey,	19·57
Cambridge,	11·75	Northumberland,	19·66
Suffolk,	13·31	Westmoreland,	29·80
Essex,	16·19	Devon,	19·03
Worcester,	22·73	Durham,	19 86
Huntingdon,	9·82		
Average,	16·79	Average,	21·15

It has been stated by several writers on the Continent, that their statistics distinctly exhibit a larger amount of lunatics in cities than in country districts. We have no facts which would afford the means for an exactly similar comparison. It will be seen, however, that so

far as the agricultural and manufacturing districts are analogous, the contrast (though pointing in the same direction), is not so great in our own country as on the Continent. There may be, therefore, some disturbing influences at work in England which prevent the difference being greater than it otherwise would be. For, while in Ghent (according to Dr. Guislain) there is one lunatic in 302 inhabitants; the rural population around has but one lunatic to 1400; and in one of the departments of France (Meurthe), there is only one lunatic in 1460 inhabitants, while in the town of Nancy, in the same department, there is one in 500. "Examine the elements of insanity in our asylums," observes a French writer, "and you will find two-thirds of them made up of the inhabitants of our towns, and scarcely one-fourth by the country population. And wherefore? he asks. Because, he replies, in proportion as you remove from the great centres of activity, the subjects of conversation are contracted and circumscribed, and you will find the country people almost exclusively engaged in the same circle of ideas, having reference chiefly to their interests and their property." Dr. Parchappe admits the fact, but is disposed to attribute the difference to the drunkenness and demoralization which, as he believes, are more prevalent in city than in country life. Such statements as those of Dr. Guislain can scarcely be called in question, coming as they do from such high authorities; at the same time, seeing that in regard to the statistics of England and Wales, we are not in a position to point to such striking results, we do not found any conclusions upon them, but rather confine ourselves to the proof already adduced, that no evidence exists (such as has again and again been brought forward), which militates against our position that modern civilization tends, *cæteris paribus*, to increase the amount of mental disease; and to the fact, that so far as the evidence afforded by figures is worth anything, it tells in our favor.

To resume. The agricultural and manufacturing districts cannot be taken, the one as the representative of savage, and the other of civilized society. But, even if they are so taken, the statistics, when fairly worked, indicate less insanity in the former than in the latter. Further, if we take those counties in which there is the most, and those in which there is the least ignorance, as bearing more closely upon the present inquiry, although from the impossibility of excluding all disturbing influences, such grouping of counties is liable to fallacy, we find more insanity in the latter than in the former.

The causes which have now been considered in reference to this question, belong all of them to the moral class. Of those which are properly physical, the most important for consideration is intemperance. It is probable that all nations, in some form or other, make use of stimulants; at the same time, those which are employed in Europe would appear to be decidedly more extensively injurious, both to bodily and mental health. Thus we shall see that in China, and among the Mussulmans in Egypt, by whom opium is so much used, there is comparatively little evidence of mental disease; and that travellers attribute the immunity enjoyed by the former to the limited use of alcoholic drinks. Of 1428 cases of insanity admitted into Bethlehem Hospital, 181, or 12 per cent., were found by Sir Alexander Morison to be referrible to intemperance. At the Wilts County Asylum, of 348 cases in which the exciting cause of the attack was ascertained, 47, or 13·5 per cent., were attributable to the same cause. And, from the Report of the Commissioners in Lunacy, in 1844, it appears, that of 9867 cases in which the cause of insanity was ascertained, 1792, or upwards of 18 per cent., were caused by the abuse of intoxicating liquors. In America, the proportion is stated to be very much higher among the patients admitted into some of the State asylums. But, we believe that all these figures fall far short of presenting a true picture of the complex influence of intemperance in inducing, directly or indirectly, derangement of the mental faculties. The grand cause of the general paralysis of the insane, Dr. Guislain believes to be the united action of drink and study, or chagrin.

When we reflect on the very large number of cases of insanity, more or less connected with functional or organic disease of the uterus, and remember that among barbarous nations these disorders are unquestionably of less frequent occurrence than in civilized society, we shall not fail to recognize, in this difference, one reason why more mental disease might be looked for in the one condition of society than in the other. Parturition itself, according to the general testimony of travellers, interferes much less, and for a shorter period, with the healthy action of both body and mind among savage nations, than among the luxurious daughters of artificial life. There are several other important physical causes of insanity, which in relation to the present inquiry ought to be referred to, but we cannot now consider them. The extent of intermarriage is one of these. In what direction this would affect the question at issue, we are not prepared to say.

It may still, however, be said, notwithstanding all these unfavorable circumstances, and notwithstanding the greater excitement of the brain, arising out of civilized life, which naturally increases its risk of derangement, that there are, on the other hand, favorable circumstances, which outweigh those which have an unfavorable tendency. Indeed, in endeavoring to reply to a question like the present, in which so much can be justly said on both sides, one is disposed to adopt somewhat of the style of the profound Sganarelle, when responding to the inquiry whether men or women are most easily cured of disease. "Monsieur, c'est une grande et subtile question entre les docteurs. . . . Les uns disent que non, les autres disent que oui; *et moi je dis qu'oui et non.*" The main counterbalancing advantages we suppose to be, improved hygiene and therapeutics, by which health may be preserved, and, if lost, restored; the greater discipline of the emotions, by which they may be brought more under control; and the check put upon vice and intemperance, by the principles of religion and virtue supposed to attach to civilized communities. And, regarding the question in an abstract and theoretical point of view, we should certainly be disposed to expect that the development of civilization, in its highest and widest sense, would conduce to the mental health of any people subjected to its influence. But, practically, we submit, that, in consequence of the abuse of the very blessings attendant upon the progress of civilization, and of the temptation which civilization offers to overtask the mental faculties; and, lastly, in consequence of the greatly increased degree in which the emotions are developed, the result is, that an advanced civilization tends to increase the number of the insane. "I am not one of those modern philosophers," says Dr. Rush, "who derive the vices of mankind from the influence of civilization; but I am safe in asserting that their number and malignity increase with the refinements of polished life. To prove this, we need only survey a scene too familiar to affect us; it is a bedlam, which injustice, avarice, pride, vanity, and ambition, have filled with inhabitants."

After these considerations as to what we might expect to be the effect of civilization, when viewed in relation to the etiology of mental disease, we pass on to make some inquiry as to the fact. *Are* there more lunatics among civilized nations than among those which are uncivilized?

Here, however, unfortunately, we are met by the absence of anything like reliable data upon which to proceed; for, however nearly

we may be able to approximate to the numbers of the insane among ourselves, or in other civilized countries, there exists no parallel series of facts with which to compare them, among those nations which are in a state of barbarism. Nor can it, for one moment, be doubted, that the apparently greater extent of insanity among civilized nations (as well as the great apparent increase of insanity in recent times), is, in a great measure, satisfactorily explained by the obvious fact, that these, much more completely than barbarous nations, know of the existence of insane persons, and recognize mental disease as such. And there are various other reasons why uncivilized nations should appear to be less subject to insanity than is actually the case. Thus, weakly children, including imbeciles, would be generally neglected (except when regarded superstitiously), and among some nations (as the Esquimaux) put to death. The same remark attaches to the aged, who, on this account, rarely afford examples of superannuation.

The testimony of travellers, however, although to be received with extreme caution, as necessarily based on more or less imperfect sources of information, must not be disregarded, but be accepted as the nearest approach we can make to the statistics of insanity in uncivilized countries.

"After much inquiry," says Rush, "I have not been able to find a single instance of *fatuity* among the Indians, and but few instances of *melancholy* and *madness*;" and subsequently he contrasts their comparative immunity from nervous diseases, with the diseases of civilized countries; observing, that according to Cullen's nosology, these latter amount to 1387; of which, 612 are comprised in the single class of neuroses.

Dr. Lillybridge, of Virginia, under a government appointment, paid special attention to the diseases of the American Indians: yet he neither saw, nor heard any mention made of, a case of madness among them. Again, Dr. Butler, of America, who lived twenty-five years among the Cherokee Indians, never witnessed a well-marked instance of insanity, although he had known delirium to arise in the course of other diseases ninety-five times. He also states, that an intelligent chief, 80 years of age, informed him that he had never seen any Indian affected in the way those were whom he had seen in the Philadelphia asylum.

If from the American Indians we pass on to the African continent, we may avail ourselves of the valuable testimony of Dr. Moreau of

Paris, who when travelling in Africa, some years ago, made especial inquiry in regard to the numbers of the insane. The following is a brief abstract of the result of his investigations :

"Cairo is the only town in Egypt (the population of Egypt 4,000,000) which possesses an asylum for the insane. At Alexandria, where there are not fewer than from 80 to 90,000 inhabitants, and where there are many hospitals for diseases in general, they have not assigned even a single ward to the insane. I have found in the Marine Hospital *two* imbeciles, and *three* laboring under nostalgia, one of whom was said to have frequent paroxysms of excitement. Dr. Greyson, surgeon-in-chief, who has been in Egypt for nearly ten years, has assured me, that he has only seen a single example of insanity. An old Arab had from his admission into the Hospital, manifested symptoms of suicidal insanity, and at last cut his throat. He has not observed any of those convulsive affections which, as every one knows, have so much to do in causing mental disease. He has only seen one individual attacked with convulsions of a suspicious character. According to him, affections of the head (congestion, apoplexy, &c.) are exceedingly rare." "In Egypt, we find in an area of a few hundred leagues, the proof of what social institutions can effect in the production of mental disease. In short, as we ascend the Nile, the further we go from Cairo, the City of the Delta, where civilization is at its height, nature becomes rude and monotonous; lofty mountains and desert plains, tents and cattle, successively replace cultivated and fertile fields, habitations, and bazaars. With the soil, man becomes more degraded, his intellectual activity diminishes, and is at last reduced to a minimum, absorbed as he is in the necessary wants of physical life. Among this population, the insane become fewer and fewer in number. I have not met with a single one—not even an idiot—in all Nubia. Several of my friends who have visited Sennaar, Cordofan, and Abyssinia, have found only here and there a few imbeciles. Dr. Aubert, who, during three years, travelled in all parts of Abyssinia, has only seen two idiots. Captain Cousin said to me, a few days ago, that in his long excursions on the coast of Guinea, over an area of 2400 miles, he had only met with a single individual who could be regarded as insane. Dr. Hadgi, chief physician to the 2d Regiment, during the seven years he had been in the service of Mahomet Ali, has informed me, that he had only had occasion to treat two madmen." Both these were Syrian soldiers, and labored under intermittent mania. Dr. H. had

seen also two examples of nostalgia among Syrian soldiers—one of whom fell rapidly into a state of marasmus and died.

Dr. Moreau further observes, that outside the hospitals, those who are insane afford examples of imbecility and dementia. "They are few in number," he adds, "for those which I have cited are all that I have discovered in travelling from one end of Egypt to the other, from Alexandria to Soanne, and even in Nubia, as far as Oadi-Elfa, beyond the second cataract. No doubt, in spite of all my endeavors, I have not always been fully informed, and unquestionably many of the Santons are really insane; but, be this as it may, it is impossible to doubt, that in these countries there are infinitely fewer lunatics than in Europe."

In a work entitled, *A Medical Tour in Northern Africa*, the author (Dr. Furnari) states that the number of insane among the natives of Algiers, and the Arabs of Northern Africa, is far below that of Europe. He thinks that one cause of this difference lies in their "total abstinence."

As regards the liability of the African negro to insanity, when in a state of slavery, some difference of opinion has existed. Dr. Jarvis, however, says that there is no evidence whatever to show that either free or slave blacks are more subject to mental disease than the whites. The inquiry which resulted in this statement, was made in consequence of the American census making it appear that the *free* colored race is fearfully subject to insanity—a position which, however palatable to the authors of the census, was found by Dr. Jarvis to be totally erroneous.

In the *Medical Times and Gazette* (Nov. 8th, 1856), it is stated that "in a work by Mr. Olmsted, on the *Seaboard Slave States of the Union*, a Dr. Cartwright describes a form of disease he calls *Drapetomania*, which, like a malady that cats are liable to, manifests itself by an irrestrainable propensity to run away." But, surely Dr. Cartwright is here enjoying a jest at the expense of his readers. In our judgment, the absence of such a propensity would be a melancholy proof of imbecility or incipient dementia.

Passing from Africa to the East, we find Dr. De Forest, of the Syrian Mission, thus expressing himself, in a letter written from Syria to Dr. Butler, of America. "It is impossible to obtain accurate statistics of the insane here, but I think the disease far less frequent than in our own land." He gives a fearful picture of the treatment of those who are unfortunate enough to be insane. Dr.

Paulding, in the *Boston Medical and Surgical Journal* (1852), also observes that, "the insane are not very numerous" in Syria, and that those in an asylum at Damascus are wretchedly treated. There would appear to be more insane, however, in Syria than in some countries to which we have referred; and it is noticeable, that Dr. Hadgi's cases of madness in Egypt occurred among the Syrian soldiery.

In China, where till recently the people have been little subjected to political commotions, and although in some respects decidedly civilized, have led a stereotyped and unexciting life, there is little evidence of a large amount of insanity. Williams, a missionary from New York, who resided there twelve years, asserts that he had only seen two who were "upside down sick," as the Chinese call their insane. He attributes the rarity of mental disease among them to two causes, —the absence of the feverish intellectual condition which characterizes Europe and North America—and the limited extent to which they indulge in alcoholic liquors. He was not aware of any hospitals in which the insane were kept. The Hon. Caleb Cushing likewise, after residing for some time in China, concluded that there were very few lunatics to be seen or heard of. The Chinese medical books, according to Dr. McGowan, scarcely allude to the disease. Dr. Hepburn, who had charge of a hospital (under the missionaries) at Amoy for more than a year, did not admit a single case. It appears, from Turner's Embassy to Thibet, that he could not hear anything of insanity there.

Dr. Wise, the superintendent of an asylum in Bengal, some years ago wrote a paper entitled, *Practical Remarks on Insanity as it occurs among the Inhabitants of Bengal.* In this essay he states, as the result of his experience, that insanity is less frequent, and assumes a less acute form, among the East Indians than among the civilized nations of Europe. He says, however, that the number is being increased by the use of gungah (Indian hemp), and by the spirituous liquors which the Europeans have introduced. It is a common practice in India to learn large quantities of the Sanscrit off by heart; and this practice Dr. Wise considers to be a fruitful cause of mental disease.

Lastly, turning to the South Sea Islands, we have the following testimony from Captain Wilkes, commander of the United States Exploring Expedition, in a letter written to the late Dr. Brigham.[1]

[1] *American Journal of Insanity.* January, 1845.

"During the whole of my intercourse with the natives of the South Sea, I met no deranged person. . . . I am confident that had any instance of mental derangement among the natives occurred, it would have been observed by us."

On the whole, then, we would suggest the following as the conclusions to which the foregoing facts and considerations lead:

1. That, while the greater facilities which exist in civilized countries for obtaining a knowledge of the numbers of the insane, and the greater degree in which the disease is recognized, render any just comparison very difficult, and tend to show a much larger proportion than is actually the case, there can be little doubt, nevertheless, after making due allowance for this source of error, that insanity attains its maximum development among civilized nations; remaining at a minimum among barbarous nations, as well as among children, and animals below man.

2. That, having regard to the main causes of insanity, there can be no reasonable doubt, that, in modern civilized society, these outweigh those circumstances which might be supposed to favor mental health; these unfavorable causes being principally, the increased susceptibility of the emotions to slight impressions, consequent upon their constant cultivation—the abuse of stimulants—and the overwork to which the brain is subjected, especially in early life, by an over-wrought system of education—the higher emotions or moral sentiments, the lower propensities, and the intellectual faculties, being thus all subjected, separately or combined, to an amount of excitement unknown to savage tribes.

3. That, inasmuch as all civilization is, up to the present time, to be regarded as imperfect and transitionary, it does not necessarily follow, from the foregoing, that civilization, carried out to its perfect development, a civilization which should exactly temper the force of the emotions, moderate intellectual exertion, and banish intemperance, it does not follow, perhaps, that such a civilization as this, would generate mental disease. Even such a condition of society as this, however (which, it is to be feared, will never be realized), would, we believe, present greater danger to the integrity of the great centre of the nervous system than a state of barbarism.

CHAPTER IV.

AMELIORATION OF THE CONDITION OF THE INSANE IN MODERN TIMES, ESPECIALLY IN REGARD TO MECHANICAL RESTRAINTS.

Owing to the remarkable neglect which long attended the treatment of the insane, we have not to trace the history of the gradual amelioration of their condition from ancient periods down to our own times. It must be a matter of surprise, that the principles of treatment so well laid down by one or two of the ancient medical writers, should have been so entirely forgotten or disregarded. The reader of Cælius Aurelianus cannot but feel astonished when he finds that, nearly 1800 years after that humane physician flourished, it could be said in the House of Commons by the Earl of Shaftesbury (then Lord Ashley), "that the whole history of the world until the era of the Reformation does not afford an instance of a single receptacle[1] assigned to the protection and care of these unhappy sufferers, whose malady was looked upon as hardly within the reach or hope of medical aid. If dangerous, they were incarcerated in the common prisons; if of a certain rank in society, they were shut up in their houses, under the care of appropriate guardians. Chains, whips, darkness, and solitude were the approved and only remedies."[2]

It is, indeed, to be feared that the directions of Celsus have exercised a most prejudicial influence, even till within a very recent period; and it is not difficult to recognize them in the writings of the classical Cullen, who did not omit to recommend the employment of "stripes" in the treatment of the maniacal.

The year 1792 will ever be memorable in the history of the treatment of the insane. In this year, the celebrated Pinel liberated fifty-three of the patients confined in the Bicêtre from the chains by which it was then thought necessary to restrain their fury.

[1] Though substantially true, this is not literally correct. One existed at Jerusalem so early as the fifth century.

[2] Speech in the House of Commons, 1845.

Limited space has induced us to omit a detailed account which we had prepared of this great deed, and of the consequences which followed. They are, moreover, well known to most of our readers. We have thought, however, that the history of the improved treatment of the insane in our own country, and of the origin of what is called the Non-restraint System, being of special interest to us as Englishmen, could not with propriety be omitted. To these circumstances we therefore now propose to direct our attention.

England formed no exception to the picture which has been drawn of the deplorable condition of the insane, consequent on the cruel neglect with which they were treated. Many were burnt as witches, others were confined in prisons and in houses for the poor; and it is doubtful whether Crabbe was correct, when, in describing the inmates of the latter, he thus estimates their comparative happiness:

> "The lame, the blind, and far the happiest they,
> The moping idiot, and the madman gay."

Others were the sport of village boys,—much more serious enemies than the "turkey-cock" mentioned by Sir Walter Scott, as the principal torment of a village idiot; while those lunatics who received any treatment at all, fared little better in the hands of persons who were supposed to understand their disorder.

The kind of treatment pursued by the highest medical men four hundred years ago, is pretty clearly indicated by what has been handed down to us relative to the psychological history of King Henry the Sixth, in whom mental disease was hereditary. Thus, we are informed that five physicians and surgeons were appointed to attend the royal patient, and were empowered to administer "electuaries, potions and syrups, confections and laxative medicines, in any form that might be thought best; baths, fomentations, embrocations, unctions, plasters, shavings of the head, and scarifications."

It is not a little singular that Bethlem Hospital, which has become on various occasions so notorious for its ill-treatment of the insane, should, in the first instance, have provided for their care with benevolent intentions, and under some favorable auspices. It was in the year 1547, that Henry the Eighth took possession of the monastery or hospital of St. Mary of Bethlem,[1] and presented it to the city of London, with an order that it should be converted into a house for

[1] In 1246, this religious house was first founded by Simon Fitz-mary, to be a priory of canons with brethren and sisters.

the reception of lunatics. It was situated in Bishopsgate Ward without the city wall, between Bishopsgate Street and Moorfields. Stow describes it, in his time, as standing in an obscure and close place in the neighborhood of many common sewers, and as also too small to receive and entertain the great number of distracted persons, both men and women, who stood in need of it.

In consequence of the want of further provision for lunatics in London, a large building was erected in 1675, in Moorfields, where the Hospital stood until 1814.[1] There was, in a short time, accommodation for 150 patients; whereas, in the old building, there were usually but 50 or 60. In the rules made March 30, 1677, to which it is interesting to refer, it is ordered *inter alia*, that such of the lunatics as are fit should be permitted to walk in the yard till dinner-time, and then be locked up in their cells; and that no lunatic that lies naked, or is in a course of physic, should be seen by anybody without an order of the physician. It is further humanely ordered, that no officer or servant shall beat or abuse any lunatic, nor employ any force to them, but upon absolute necessity for the better governing of them. Dr. Tyson, who was physician to Bethlem from 1684 to 1703, informs us that, "as to the care and cure of the patients, here is, undoubtedly, the greatest provision made for them of any public charity in the world; each having a convenient room and apartment to themselves, where they are locked up at night, and in it a place for a bed; or if they are so senseless as not to be fit to make use of one, they are every day provided with fresh clean straw. Those that are fit for it, at convenient hours have liberty to walk in the long galleries, which are large and noble. For the summer time, to air themselves, there are two large grass-plats,—one for the men, the other for the women; in the winter, a stove for each apart, where a good fire is kept to warm them; in the hot weather, a very convenient bath place, to cool and wash them; which is of great service in airing their lunacy, and is easily made a hot bath for restoring their limbs when numb, or cleaning and preserving them from scurvy, &c. Their diet is extraordinary good, and proper for them, which

[1] "Therefore, upon a charitable consideration of the same, the Lord Mayor, Aldermen, and Common Council of the City of London had granted unto the Governors a sufficient piece of ground against London Wall, on the south side of the lower quarters of Moorfields; and, in pursuance thereof, they had proceeded to build a new hospital, which now shows a stately and magnificent structure. The gate or entrance is all of stone, with two figures of a distracted man and woman in chains over the gate."—(Strype's Stowe.) London: 1720.

every week is viewed by a committee of the governors. . . . There is nothing of violence suffered to be offered to any patient, but they are treated with all the care and tenderness imaginable. If raving or furious, they are confined from doing themselves or others mischief; and it is to the credit of the hospital, that in so great a number of lunatics that are constantly kept there, it is very rare, in many years, any one patient makes away with himself. . . . The time of cure is uncertain: some have been cured in a month, others in two or three, and some continue distracted many years." This was written early in the eighteenth century.

In 1734, considerable additions were made to Bethlem; and, in consequence of its still proving inadequate to meet the demand, St. Luke's Hospital was established in 1751, by voluntary subscription. It was situate on the north side of Upper Moorfields, in a locality called Windmill Hill.[1]

From this period to the latter part of the eighteenth century, but little progress was made in the treatment of the insane, and in the condition of the houses where they were received; indeed, as respects Bethlem, it is probable that its state had retrograded rather than advanced. In the middle of the century (1755) a work was published, the title of which appears significant; this was, "Folly Predominant; with a Dissertation on the Impossibility of Curing Lunatics in Bedlam." From time to time, during this period, a work made its appearance on the subject of Insanity. Thus, in 1700, Herwig published his "Art of Curing Sympathetically or Magnetically; with a Discourse on the Cure of Madness;" and, five years later, Fallowes enlightened the world with his "Method of Curing Lunatics." Blakeway wrote in 1717,[2] and Frings in 1746.[3] Batty wrote his treatise on madness in 1757. But none of these works deserved or gained much reputation. Perfect, whose first work on the subject was written in 1778,[4] made some valuable contributions to the knowledge then possessed regarding insanity. His treatment appears to have consisted chiefly in venesection, emetics, setons, digitalis, antimony, and

[1] St. Luke's now stands on a site formerly known as The Bowling Green, Old Street Road. It was commenced in 1782, the expense (£50,000) being defrayed by voluntary subscription. It was opened January 1, 1787, the number of patients being 110.

[2] Essay toward the Cure of Religious Melancholy.

[3] Treatise on Phrensy.

[4] Methods of Cure in some Particular Cases of Insanity. By the same author,—Address to the Public on Insanity (1784); Select Cases of Insanity (1787); and Annals of Insanity (1801).

electricity. Dr. T. Arnold published the first edition of his excellent "Observations on the Nature, Kinds, &c., of Insanity," in 1782. This work, however, contains little or nothing in regard to treatment. A few years afterwards (1789), "A Treatise on the Real Cause and Cure of Insanity," was published by Harper, which, although it possesses no merit, has, however, the honor of having been criticised by Pinel. In 1790 appeared "Observations on the General and Improper Treatment of Insanity," by Faulkner; and the "Observations on Maniacal Disorders," by Pargeter, in 1792. But none of these writings appear to have exercised any material effect in ameliorating the condition of the insane in England. This, unfortunately, is but too correctly described in the following graphic sketch from the pen of Dr. W. A. F. Browne:[1] "Let us pass a few minutes," he says, "in an asylum, as formerly regulated; and, from the impression made by so brief a visit, let us judge of the effects which years or a lifetime, spent amid such scenes, was calculated to produce. The building was gloomy, placed in some low, confined situation; without windows to the front, every chink barred and grated—a perfect gaol. As you enter, a creak of bolts, and the clank of chains, are scarcely distinguishable amid the wild chorus of shrieks and sobs which issue from every apartment. The passages are narrow, dark, damp, exhale a noxious effluvia, and are provided with a door at every two or three yards. Your conductor has the head and visage of a Carib; carries (fit accompaniment) a whip and a bunch of keys, and speaks in harsh monosyllables. The first common room you examine—measuring twelve feet long by seven wide, with a window which does not open —is perhaps for females. Ten of them, with no other covering than a rag round the waist, are chained to the wall, loathsome and hideous; but, when addressed, evidently retaining some of the intelligence, and much of the feeling which, in other days, ennobled their nature. In shame or sorrow, one of them perhaps utters a cry; a blow, which brings the blood from the temple, the tear from the eye,—an additional chain, a gag, and indecent or contemptuous expression, produces silence. And if you ask where these creatures sleep, you are led to a kennel eight feet square, with an unglazed air-hole eight inches in diameter; in this, you are told, five women sleep. The floor is covered, the walls bedaubed, with filth and excrement; no bedding but wet decayed straw is allowed; and the stench is so insupportable, that you turn away and hasten from the scene."

[1] "What Asylums Were, Are, and Ought to be." Edinburgh, 1837.

"Among the bad, the York Asylum," observes Dr. Conolly, "was the worst." This institution was founded by general subscription in 1777, and had for its object "the decent maintenance and relief of such insane persons as were in low circumstances." Up to the year 1791, no suspicion in regard to the comfort of the patients was felt. "In this year, however, some members of the Society of Friends sent one of their family, a lady, for care, to that asylum. The rules of the asylum forbade her friends to see her——she died——something wrong was suspected; and from that day the Society of Friends determined to establish an institution in which there should be no secrecy. William Tuke was the great founder of the new asylum; and, from the first, he and his friends pursued, in their institution, those principles which are now universally acknowledged."[1] "By a singular and interesting coincidence," writes Dr. Thurnam, "it was in the spring of 1792, the very year in which the celebrated Pinel commenced the amelioration of the treatment of the insane in France, by the truly courageous act of unchaining fifty supposed incurable and dangerous lunatics at the Bicêtre, that the establishment of the Retreat (at York) was proposed by the late William Tuke."[2] "Each," it is observed in the *American Journal of Insanity*, "each perceived the wretchedness, the misery, the sufferings of the insane around him. Each was moved to compassion. Each resolved to effect a reform in their treatment. Each succeeded. This recognition of services to humanity is due to each. To each we freely accord it."

A visit to St. Luke's Hospital for the purpose of obtaining useful information, had the effect of stimulating the mind of the projector of the new asylum, in his effort to ameliorate the condition of the insane. He saw the patients miserably coerced,—not entirely from intentional cruelty, but from the conviction of the superiority of such a course of treatment over any other. Among them was a young woman, whose condition especially arrested his attention, and excited his compassion. She was without clothing, and lay in some loose, dirty straw, chained to the wall. The form of this unhappy patient haunted him afterwards, and redoubled his exertions until his plans were carried into practical effect.[3]

[1] Dr. Conolly's Speech at Willis's Rooms.—*Daily News*, April 1st, 1852.

[2] Born 1732, died 1822. A sketch of his life will be found in the "Journal of Psychological Medicine," October, 1855.

[3] A few years after, this patient became an inmate of the York Retreat; and we find its founder observing, in a letter written to a friend, "She has got settled, and appears more comfortable than at St. Luke's."

The new institution was to be "in an airy situation," and to have "a few acres for keeping cows, and for garden ground for the family, which will afford scope for the patients to take exercise, when that may be prudent and suitable." The prospectus expresses the desire to introduce "cheerful and salutary amusements;" and another paragraph speaks of the wish "to cherish in their patients the strengthening and consolatory principles of religion and virtue." The institution was called *The Retreat*, by which "it was intended to convey the idea of what such an institution should be—namely, a place in which the unhappy might find a refuge; a quiet haven in which the shattered bark might obtain the means of reparation or of safety." The first Report speaks of the introduction of suitable employment, in order "to relieve the languor of idleness, and prevent the indulgence of gloomy sensations;" and alludes to the custom of forming tea-parties, at which the officers entertained their guests—the patients. Into these plans, Jepson (appointed to superintend the institution at an early period of its history) most heartily entered, and largely contributed, by his benevolence and skill, to the success of the institution.

The managers of the Retreat did not at once perceive how far the lunatic might be permitted to enjoy liberty, or to what extent his feelings and better nature might be effectually appealed to. But no chains of any kind, no hobbles, leg-locks, or handcuffs, were employed from the opening of the establishment. A patient was admitted who had been for twenty years chained, and naked. With the exception of the occasional use of arm-straps, no personal restraint was employed from the moment of his admission. He was soon induced to wear clothes and adopt orderly habits. Another patient had nearly lost the use of his limbs from similar usage, and, for some time after his admission, it was necessary to lead him about like an infant. He was found to require no restraint, and was, after a while, able to walk without assistance. When one of his friends visited him, and asked him what he called the place, he replied, with great earnestness, "Eden, Eden, Eden!"

The two modes of restraint resorted to, were either the strait waistcoat, or a belt to which the arms were attached so as to prevent mischief, but allowing of considerable motion.[1] When the waistcoat was employed, it was solely for the purpose of preventing what was regarded as dangerous violence, and was not applied as an instrument of suffer-

[1] Evidence before a Committee of the House of Commons, 1815, p. 198.

ing and punishment. It was reserved to others to show, that even the strait waistcoat is not essential to the safe custody of the insane; at the same time, the restraints above referred to, were not to be compared with the chains for which they were substituted. "Certainly," observes Dr. Conolly, "restraint was not altogether abolished by them (the early managers of the Retreat), but they undoubtedly began the new system of treatment in this country, and the restraints they did continue to resort to, were of the mildest kind."

In the general arrangement of the house, in the size of the rooms, and especially in the avoidance of a gloomy prison-like aspect, they anticipated, to a remarkable extent, the principles now admitted in reference to the construction of asylums for the insane. They entirely discarded the practice, then common in even the very best asylums, of having apertures guarded by strong iron bars and shutters (in the place of glazed windows), in the cells of the poorer patients. These shutters, when closed, of course excluded both light and air. Iron sashes, glazed, were employed throughout the Retreat.

Little was known of the experiment which was being tried at the Retreat, until, in 1798, Dr. De la Rive visited the house, and, astonished and delighted with what he witnessed there, published some account of it in a periodical.[1] He observes, that the house "does not present the idea of a prison, but rather that of a large rural farm. It is surrounded by a garden. There is no bar nor grating to the windows. . . . The chief part of the moral treatment (in addition to the internal arrangements of the building), consists in the use of agreeable remunerative means. As soon as the patient is quiet, they remove him from restraint—permitting him to go out of his room and to walk in the open air in a large court, surrounded by a wall; if he continues better, he is preferred to a chamber on the first floor, which is a kind of honorable promotion, and serves to encourage the exercise of self-restraint. These rooms are large, and more agreeable than the lower ones, and are provided with more furniture, and are altogether the picture of neatness. . . . As soon as the patients are well enough to be employed, they endeavor to make them work. The women are employed in the usual female occupations. The men are engaged in straw and basket-work, &c. The superintendent had made an experiment a few days before, which

[1] Republished under the title "Lettre adressée aux Redacteurs de la Bibliothèque Britannique sur un nouvel etablissement pour la guerison des Alienes." Pinel refers to it on several occasions, in his well-known work published three years afterwards.

had answered very well. The institution is surrounded by some acres of land which belong to it. He had undertaken to make the patients cultivate this land, giving to each a task apportioned to his strength; he found that they were fond of this exercise, and that they were much better after a day spent at this work, than when they had remained in the house, even when they had had the liberty of taking a walk."

In 1810, Stark, in his remarks on the construction and management of asylums, observes: "In some asylums which I have visited, chains are affixed to every table, and to every bed-post; in others, they are not to be found within the walls. At the Retreat, they sometimes have patients brought to them frantic and in irons, whom they at once release, and, by mild arguments and gentle arts, reduce almost immediately to obedience and orderly behavior. It is a government of humanity and of consummate skill, and requires no aid from the arm of violence and the exertions of brutal force."[1]

These and other testimonies to the practice pursued at the Retreat, did not fail to attract the attention of medical men and philanthropists; and the numerous inquiries made respecting it led (twenty-one years after its projection) to the publication of an account of the institution, and of the methods of treatment adopted in it.[2] This publication drew the attention of the public still more to the treatment pursued at the Retreat, and produced a much greater effect than could have been anticipated. The physician of the York Asylum took offence at the following passage, which was by this sensitive officer supposed to have reference to his own asylum: "It deserves inquiry whether the extensive practice of coercion which obtains in some institutions, does not arise from erroneous views of the character of insane persons, from indifference to their comfort, or from having rendered coercion necessary by previous unkind treatment." A long controversy ensued in the local papers, during which a case of gross ill-treatment in the asylum came to light; the indefatigable Godfrey Higgins—a name ever to be remembered—unrelentingly investigated and substantiated it; the public were thoroughly aroused;

[1] "Remarks on the Construction of Public Hospitals for the Cure of Mental Derangement," by William Stark, Esq., pp. 11, 12. It is curious, that Stark himself is anxious not to be supposed to imply, by these observations, that he approved of the total abolition of chains. (Loc. cit.)

[2] "Description of the Retreat, containing an account of its origin and progress, the modes of treatment, and a statement of cases," by Samuel Tuke, 1813.

a committee of inquiry was formed; the most fearful abuses were discovered, and nearly every officer and servant dismissed. It is foreign to our purpose to enter into the details of the fearful disclosures which were made. Let it suffice to present the following summary from the *British and Foreign Medical Review*, vol. ix, p. 146: "The York Asylum was, for the long period of thirty-seven years (1777–1814), the scene of every abuse that rapacity and inhumanity could crowd into a single institution. The mere recital at the present day, would exceed belief. Suffice it to mention, that among the instances of mismanagement gradually brought to light, were the most aggravated neglect of all medical and moral treatment; every species of cruelty; most gross immorality; every practicable variety of shabby embezzlement and peculation; false reports, in which especially the *deaths* were concealed, even so many as 100 at a time; the occasional disappearance of patients supposed to have been murdered outright and returned in the reports as dead, or removed, or cured; and, as a grand and appropriate *finale*, a very strong suspicion of the building itself being wilfully set on fire, in the hope of destroying some of the books or patients."

From the evidence given before the memorable Committee of the House of Commons, in 1815, notwithstanding the equivocation and evasion which marked many of the replies, it is not difficult to form an estimate of the condition of the English asylums generally, more especially the York Asylum and Bethlem Hospital. Nor was the condition in which they were found at that period, alone revealed; their past condition was, at the same time, rendered manifest.

A miserable and empirical routine marked the treatment. To the question, "Has there not been a rule in the hospital, for a certain number of years, that in certain months of the year, particular classes of the patients should be physicked, bled, bathed, and vomited, at given periods?" the reply from Bethlem was in the affirmative. Twice in the year the patients, with few exceptions, were bled. "After they have been bled," said the physician, in evidence, "they take vomits once a week, for a certain number of weeks; after that, we purge the patients. That has been the practice, invariably, for years—long before my time."

In regard to the means of coercion employed, it was stated that the patients "are generally chained to the wall with manacles." When inquiry was made regarding the use of strait waistcoats, it

was replied, "I do not believe there are any strait waistcoats in Bethlem now, or very few indeed; they generally use irons." The objection to strait waistcoats was, that the patients "could not help themselves in strait waistcoats; they are so excessively long in the hospital without being seen by anybody, in a dark place; in winter, from four o'clock to six or seven in the morning. If they were in a strait waistcoat, they could not assist themselves the least in the world."[1] When, in the following year, the head-keeper of Bethlem Hospital was asked, "Was it not the practice in old Bethlem,—not in the late gallery, but in the gallery pulled down,—for eight, ten, or more patients to be fastened to the tables, almost in a state of perfect nakedness?" he replied, "Yes; they used to think they tore their clothes all to pieces; some of them would do that." "In point of fact, were they not fastened to the tables, sitting, in a state of perfect nudity?" *Answer.* "They used to be so at the table; they were chained all round."

The case of Norris, who was loaded with heavy irons for ten or twelve years, will be best dismissed by simply extracting the entries having reference to him, from the smith's day-book, with his comments in evidence. "June 23, 1804, Bethlem. To a new round rail-bar, for head of bedstead in one of the cells for Norris, seven feet long: To a new collar for Norris's neck, with two new joints to ditto, and two basils for his arms, and five chains and seven rings to go over the round bar: To two men one day and a half boring holes through brick walls, and fixing the round bars and rivets, and rivetting on the neck-collar and basil, by order of the Committee. The round rail was that which went through from one cell to the other, and the bolts going through were to hold that round rail; then the collar had seven links to let him up and down."[2] But this was not the whole of the apparatus by which perfect security was endeavored to be attained. A committee appointed to investigate this very case, in 1814, state that there was also an open-worked frame (of iron), the lower part of which encircled the body, and the upper part of which passed over the shoulders, having on either side apertures for the arms, which encircled them above the elbow, but left the lower part of the arms hanging down and at liberty, . . and a chain passing from the ankle of the patient to the foot of the bed, by which

[1] Report of the Committee of the House of Commons on Madhouses in England, together with Minutes of Evidence, 11th July, 1815.

[2] First Annual Report on Madhouses, 1816, p. 69.

additional security appears to have been obtained, and a habit of kicking (to which the patient was particularly addicted) was restrained.[1] Yet this was the apparatus so ingeniously cruel, respecting which Haslam, the apothecary at Bethlem, when asked, "Do you think that his confinement in that manner, during the whole of that period, was necessary?" replied, "Decidedly."

The matron of Bethlem Hospital (who was elected January, 1815) gave evidence that, when she was appointed, there were about twenty patients under personal restraint out of between fifty and sixty patients. "The custom when I first went was, only to get them up three days of the week—never on meat days: they lie in bed four days in the week." She also stated, that one of the female patients had been chained for eight years, but had not required restraint since she had been there.[2]

But Bethlem was far from being the only place where patients were treated like wild beasts. Mrs. Mary Humieres, formerly housekeeper in a private asylum at Bethnal Green, gave evidence to an attendant "kicking the patients and thumping them sadly;" and "beating one in his shirt with a pair of boots, in a most dreadful manner." She named a female patient who, when in a state of irritation, was confined in a place in the yard which was originally a pig-sty; "it was run up high on purpose for her; I have seen her confined there for three weeks together. She has been ironed there in the crib with wrist-locks and leg-locks, and a chain two or three times across her body." An iron bar was placed between her legs when she walked about, to prevent her escaping. "It was confined to each ankle, with a chain coming up between her legs, which was attached to her handcuffs." But, in addition to this frightful restraint, we are informed that an attendant, at the instance of the proprietor, would, "at sundry times," lock her down in her crib with wrist-locks and leg-locks, and horsewhip her. "I have seen the blood follow the strokes."[3] Yet this patient is described as very harmless; "you might sit and talk to her when she was in her highest state."

Such were the terrible revelations which the inquiries of this Committee elicited. But it must be borne in mind that, although that management of the insane, which consisted so essentially in mechanical restraint, had, in some instances, its origin in cruelty and reckless-

[1] Report on Madhouses, 1815. Appendix, No. 3.—[Report of Select Committee, June 23, 1814.]

[2] First Annual Report of Madhouses, 1816, p. 95.

[3] Op. cit. p. 137.

ness, its general use arose from the idea impressed upon the keepers of asylums—no less by the highest authorities than by a venerable antiquity—that it was the necessary and best mode of treatment. It was connected with a theoretical ignorance of the nature and pathology of insanity, and with a practical want of acquaintance with the tendencies and capabilities of the insane. Even a witness, who was evidently a gentleman of humane feelings, when asked by the Committee to state the means of restraint he adopted, replied: "The strait waistcoat generally; and sometimes I am compelled to fasten them on to the bed. . . . On one side, I have a small chain that suits the arm, and another to the leg; and when they are very violent, I chain one leg and one arm to the side of the bed, so that they cannot get out of bed, but they can reach whatever they want."[1]

If, then, to determine the condition of the moral management of the insane in England, during the period extending from 1792 to 1815, we review the then existing asylums, we shall find—first, a total absence of moral management in the greater number of asylums (as in the hospitals of Bethlem and York),—second, a very high degree of moral management, in which mechanical restraint was rarely employed, and then only of the mildest kind (as at the Retreat),—third, a considerable amount of moral government, but combined with the extensive use of mechanical restraint,—not from cruelty,—but from ignorance. Under the first class, we meet with chains, stripes, and a filthy condition of the person of the lunatic. In the second, we find the waistcoat, or arm-straps, occasionally resorted to in extreme cases; but the chief reliance placed upon moral means, persuasion, gentleness, and sympathy. In the third class, we see the waistcoat, leg-locks, coercion-chairs, &c., in constant use—many patients being never free from mechanical restraint.

It cannot be doubted, that the exposure of the abuses existing in the York Asylum, in Bethlem, and in other institutions for the insane, awakened the public mind in an extraordinary degree, and aroused strong suspicions as to the probable condition of similar institutions. Hence arose an increasing desire for improvement on the part, not only of the public, but also of medical men engaged in the treatment of mental diseases. Old asylums were remodelled, the whip and chain discarded (though, as we shall see, not universally), and milder modes of coercion introduced. New asylums were erected, superintended by men of intelligence and humanity, who, recognizing

[1] Report on Madhouses in England, 1815, p. 339.

the supreme importance of moral and medical treatment, endeavored to ameliorate the condition of those placed under their charge. The aspirations of the French and English Reformers of 1792 were being realized.

We will now pass on to that important stage of asylum history, when the experiment of the entire abolition of mechanical restraint was to be tried. The scene of this experiment was the Lincoln Asylum. How gradual its introduction was, the following table will show:

Year.	Total number in the House.	Total number Restrained.	Total number of instances of Restraint.	Total number of hours under Restraint.
1829	72	39	1,727	20,424
1830	92	54	2,364	27,113¾
1831	70	40	1,004	10,830
1832	81	55	1,401	15,671½
1833	87	44	1,109	12,003½
1834	109	45	647	6,597
1835	108	28	323	2,874
1836	115	12	39	334
1837	130	2	3	28

Here we observe that, in 1829, more than half the number of the inmates were subjected to mechanical restraint, while, in 1836, out of 115 patients, only 12 were so confined; and that, in 1837, there were only two out of 130.[1] The total disuse of mechanical restraints followed. They were, however, resorted to on one or two occasions subsequently.

In connection with the foregoing, it must be mentioned, that the entries of the visitors and the reports of the physicians alike agree in describing the condition of the patients as much improved, the quiet of the house increased, and the number of accidents and suicides materially reduced in number.

"There is now," says the Fourteenth Annual Report, "an increased confidence, that the anticipations of the last year may be fulfilled, and that an example may be offered of a public asylum, in which undivided personal attention towards the patients, shall be altogether substituted for the use of instruments of restraint. The bold conception of pushing the mitigation of restraint to the extent of actually and formally abolishing the practice, mentioned in the

[1] A Lecture on the Management of Lunatic Asylums, &c., by Robert Gardiner Hill. Published April, 1839. (Delivered June 21, 1838.) Appendix C.

last Report, as due to Mr. Hill, the house-surgeon, seems to be justified by the following abstract[1] of a statistical table, showing the rapid advance of the abatement of restraint in this asylum, under an improved construction of the building, night-watching, and attentive supervision."

It would appear that the mitigation of restraint, as evidenced by these minutes (which commence with 1819), "was ever the principle pressed upon the attention of the Boards of the Lincoln Asylum, by its able and humane physician, Dr. Charlesworth,—at whose suggestion many of the more cruel instruments of restraint were long since destroyed, very many valuable improvements and facilities gradually adopted, and machinery set in motion, which has led to the unhoped-for result of actual abolition, under a firm determination to work out the system to its utmost applicable limits."[2]

Mr. Hill became house-surgeon in 1835; and it will be seen by the table already given, that the amount of restraint (which in consequence of Dr. Charlesworth's exertions, had already remarkably decreased) became less and less under the united efforts of these gentlemen, until the close of the year 1837, when restraint was entirely abolished; and while, on the one hand, as Mr. Hill frankly acknowledges, "to his (Dr. Charlesworth's) steady support, under many difficulties, I owe chiefly the success which has attended my plans and labors;" while Dr. C.'s great merit, both before and after Mr. Hill's appointment, must never be overlooked, it is due to the latter gentleman to admit, that he was the first *to assert the principle* of the entire abolition of mechanical restraint, as is stated in the paragraph quoted from the Fourteenth Annual Report; which report is signed by Dr. Charlesworth himself.

For a time there were, certainly, some drawbacks to the success of the Lincoln experiment, from the serious physical effects (such as broken ribs, &c.) which occasionally resulted from the struggles between attendants and patients; and it is probable that, had not the experiment been carried out on a much larger scale at Hanwell by Dr. Conolly, with far greater success, a reaction would have ensued, of infinite injury to the cause of the insane.

Dr. Conolly went to Hanwell in 1839; and in the first of an admirable series of reports written by him, we read: "The article of treatment in which the resident physician has thought it expedient to depart the most widely from the previous practice of the

[1] *Vide* antea.

[2] Hill on Lunatic Asylums.—*Preface.*

Asylum, has been that which relates to the personal coercion or forcible restraint of the refractory patients. . . . By a list of restraints appended to this report, it will be seen that the daily number in restraint was in July so reduced, that there were sometimes only four and never more than fourteen, at one time [out of 800]; but, since the middle of August, there has not been one patient in restraint on the female side of the house; and since September 21, not one on either side. . . . For patients who take off or destroy their clothes, strong dresses are provided, secured round the waist by a leathern belt, fastened by a small lock. . . . No form of strait waistcoat, no hand-straps, no leg-locks, nor any contrivance confining the trunk or limbs, or any of the muscles, is now in use. The coercion-chairs (40 in number) have been altogether removed from the walls. . . . Several patients formerly consigned to them, silent and stupid, and sinking into fatuity, may now be seen cheerfully moving about the walls or airing courts; and there can be no question that they have been happily set free from a thraldom, of which one constant and lamentable consequence was the acquisition of uncleanly habits."

In the Fifty-third Report (April 1840), the visiting justices report, that there has not been a single occurrence to weaken their confidence in the practicable nature of the system; and "that no increased destruction of clothing or other property is occasioned by the personal freedom which the patients enjoy. Indeed, so far as clothing is concerned, the amount of destruction is somewhat lessened, because of the general tranquillity of the patients under the adoption of the new system." In a later Report (October, 1844) Dr. Conolly observes, "It is to be ascribed to the want of opportunities of observation, that such a simple exclusion of irritations from an irritable mind —an exclusion not found to be necessary in more than four or five instances in any one day in the year, among 1000 patients, and seldom prolonged beyond four or five hours in any of those instances, during which time the patient's state is frequently ascertained by means of the inspection-plate in the door of his room, and all his reasonable wants and wishes attended to—should ever have been confounded with the idea of solitary confinement; the latter, in reality, comprehending a privation of almost all the stimuli upon which the integrity of intellectual and physical life depends. . . . After five years' experience, I have no hesitation in recording my opinion, that, with a well-constituted governing body, animated by philanthropy, directed by intelligence, and acting by means of proper

officers (intrusted with a due degree of authority over attendants properly selected, and capable of exercising an efficient superintendence over the patients), there is no asylum in the world in which all mechanical restraints may not be abolished, not only with perfect safety, but with incalculable advantage."

The subsequent experience of this asylum has, in the estimation of Dr. Conolly, only confirmed the truth of the above statements.[1]

Thus, then, whatever view may be taken of the question of mechanical restraint, it cannot be denied that, simply as an experiment, the course now pursued at Hanwell, for seventeen years (not to mention many other asylums), is one of very great interest, and has at least afforded additional proof of the possibility of managing the most refractory patients without personal restraint.

Into the proceedings of other lunatic asylums, in regard to the disuse of restraints (Northampton, Lancaster, &c.), we do not enter, inasmuch as it would require far more space than would be consistent with the design of the present work, to do full justice to this part of the subject. To the sustained zeal and humanity of the Medical Superintendents of asylums, the progress made at this period, in the adoption of enlightened principles of treatment, must be mainly attributed.

While, however, the moral management of the insane was progressing in the majority of establishments for their care, the condition of other asylums was bad in the extreme. One is described by the Commissioners, in their Report of 1844, as "deficient in every comfort, and almost every convenience. The refractory patients were confined in strong chairs, their arms being also fastened to the chair. One of these—a woman—was entirely naked, on both the days the Commissioners visited the asylum, and, without doubt, during the night. The stench was so offensive, that it was almost impossible to remain there." In another asylum, "in the small, cheerless day-room of the males, with only one (unglazed) window, five men were restrained by leg-locks called hobbles, and two were wearing, in addition, iron handcuffs and fetters, from the wrist to the ankle; they were all tranquil. Chains were fastened to the floors in many places, and to many of the bedsteads." Of another house, the Commissioners report: "In one of the cells for the women, the dimensions of which were eight feet by four, and in which

[1] The reader is referred to Dr. Conolly's latest work on the subject, "The Treatment of the Insane without Mechanical Restraints." London: 1856.

there was no table, and only two wooden seats, we found three females confined. There was no glazing to the window, and the floor of the place was perfectly wet with urine. The two dark cells which joined the cell used for a day-room, are the sleeping-places for these three unfortunate beings. Two of them sleep in two cribs in one cell. The floor in the cell with two cribs was actually reeking wet with urine, and covered with straw and filth. There is no window, and no place for light or air, except a grate over the doors."

So much for the dark side of the treatment of the insane at this period. It is clear, that the progressive changes in the moral management of the lunatic had not extended to all our asylums in 1844. Sufficient evidence, however, has been adduced to prove, that great improvements had taken place in the government of asylums for the insane; that the standard of the comforts of the insane had been much raised; and that, in regard to the question of non-restraint, the practice had been, to a considerable extent, adopted.

During the last thirteen years, there has been a steady advance in the extension of an enlightened system of treatment to receptacles for the insane. The extent to which personal restraint is resorted to, may, to a considerable extent, be inferred from the answers supplied by the superintendents of asylums in England and Wales, in reply to the circular issued by the Commissioners in Lunacy in 1854. From these, it would appear that, while a considerable number of superintendents consider that cases may possibly, though most rarely, occur, in which the application of mild mechanical restraint is a necessary evil; practically, personal restraint is but seldom resorted to. Dr. Conolly observes, that the information obtained from this report shows, "that in about twenty-seven public or county asylums in England and Wales, out of about thirty, mechanical restraints had then become wholly abolished, these asylums containing altogether about 10,000 patients. In nine out of fourteen institutions for the insane, called hospitals, it also appeared, that restraints were no longer resorted to; these including Bethlem Hospital and St. Luke's; and the total number of insane patients in the hospitals exceeding 900."

The Commissioners thus express their own opinion. "For ourselves, we have long been convinced, and have steadily acted on the conviction, that the possibility of dispensing with mechanical coercion in the management of the insane, is, in a vast majority of cases, a mere question of expense; and that its continued or systematic use

in the asylums and licensed houses where it still prevails, must, in a great measure, be ascribed to their want of suitable space and accommodations, their defective structural arrangements, or their not possessing an adequate staff of properly qualified attendants, and frequently to all these causes combined." (Eighth Report, p. 42.)

In the foregoing sketch of the treatment of the insane, much prominence has necessarily been given to the non-restraint system. But it must not be inferred that the removal of mechanical restraint is all which the present system of treatment embraces. The medico-moral treatment which the insane require and receive, has not been particularly dwelt upon here, inasmuch as the subject will be fully treated of in the Chapter on Treatment.

To the preceding review of the past condition of the insane in England and Wales, and of the general treatment to which they have been subjected, we append an enumeration of the Acts which have been passed for their proper custody and care. These are at once the indications of the interest excited in the public mind on their behalf, and have proved to be themselves the means of deepening and extending that interest.[1]

The Vagrant Act, passed in the year 1744,[2] contained the earliest provision made in England for the custody of lunatics. Two justices were by it authorized to secure any furious or dangerous lunatic, and order such to be locked up, and, if necessary, *chained*. Whatever property he possessed was employed in his maintenance, and his place of settlement determined.

So far back as the year 1763, a committee of the House of Commons investigated the condition of houses in which the insane were confined, and discovered, as might have been expected, their fearfully neglected condition. It was not till ten years later, however, that a bill was prepared by the Lower House to meet the evil; and even this was rejected by the Upper House. In the following year, the bill was re-introduced, and then triumphed.[3] With the exception of public hospitals, houses for the reception of lunatics were now required to be licensed, when situate in London, or within an area of seven miles round the city, by the College of Physicians. In the provinces, and in Wales, this duty was to be performed by the justices at the Quarter Sessions. Notice of the admission of each patient

[1] We are indebted to the Introduction to Lumley's "New Lunacy Acts" for much of the information which is here given.

[2] 17 Geo. II, c. 5.

[3] 14 Geo. III, c. 49.

was to be sent to the College of Physicians, whose licensers were required to visit the houses which they had licensed; while those licensed by the justices were visited by persons appointed by them. This Act, which was a step in the right direction, was renewed in 1779,[1] and rendered perpetual in 1786.[2]

Private asylums for the insane received some attention from Parliament in 1812, in the memorable year 1815, and in 1816, but nothing was accomplished until Lord Ashley and Mr. Robert Gordon carried the bill of 1828, by which the Secretary of State was allowed to appoint fifteen commissioners annually, for the license and visitation of those houses which had been previously licensed by the College of Physicians. They, and the visitors appointed by justices, were to make a certain number of visits in the year to these houses. On no pretext were patients to be admitted into them without medical certificates, and all admissions, removals, and deaths, were to be reported to the Commissioners. These asylums were to be visited by a medical man, or to have a resident medical officer.

This Act was amended in 1829,[3] both were revised in 1833,[4] when the Lord Chancellor was directed to appoint commissioners with a much wider jurisdiction, called "the Metropolitan Commissioners in Lunacy;" and power was given to him, or the Secretary of State, to order the commissioners to visit asylums for the insane, and report thereon. County lunatic asylums were exempted. In an amended form[5] this Act was continued until 1843;[6] when, among other provisions, power was granted to the commissioners to visit county asylums as well as public hospitals for the insane. The commissioners, accordingly, made a special visit to the asylums in England and Wales, the result of which was the admirable report of 1844, from which we have already cited, in proof of the gross abuses which at that time existed. Bills founded upon this report, and the suggestions made by the commissioners, were successfully introduced by Lord Ashley, and constitute the important Lunacy Acts of 8 & 9 Victoria, cc. 100, 126. The Act having reference to pauper lunatics (c. 126), is spoken of in the sketch of legislative enactments for this class. The other Act, which relates to licensed houses (c. 100), enacts, that eleven commissioners shall be appointed, six of whom are to be professional men —(three physicians and three barristers)—to be called Commissioners

[1] 19 Geo. III, c. 15. [2] 26 Geo. III, c. 91.
[3] 9 Geo. IV, c. 18. [4] 2, 3 Wm. IV, c. 107.
[5] 3, 4 Wm. IV, c. 64; also, 5, 6 Wm. IV, c. 22; 1, 2 Vic. c. 73. [6] 5, 6 Vic. c. 87.

in Lunacy.[1] The Act of 1853,[2] entitled, "An Act to amend an Act passed in the Ninth Year of Her Majesty, for the Regulation of the Care and Treatment of Lunatics," made further provisions, and to them the reader is referred.

For *lunatic paupers*, no other provision was made, after the passing of the Vagrant Act in 1744, until sixty-four years afterwards.[3] In the previous year (1807), a Committee of the House of Commons took evidence, in regard to the provision made for the insane; and Mr. Wynn succeeded in introducing a bill as the result of this investigation, which authorized the justices of any county to take steps for the provision of an asylum, to be paid for out of a levy on the county rate. To such an asylum were to be removed those furious and dangerous lunatics, who had been placed in confinement by the operation of the Vagrant Act of 1744.

Various amendments were made to this Act in the years 1811, 1815, 1819, and 1825.[4]

In the Act passed in the first of these years, overseers were obliged to produce a medical certificate, testifying to the insanity of the patient; and returns were to be made every year by the medical superintendent of the asylum, of the patients under his care, to the Quarter Sessions. In the Act of 1815, provision was made for the admission into an asylum of other than pauper lunatics, should accommodation exist; and the overseers of every parish were obliged, when required by the justices, to make a return of the lunatics within their district.

Of the two other Acts, the provisions need not here be particularly referred to.

The condition of pauper lunatics was again brought under the consideration of the House of Commons in 1827; and, in 1828,[5] all previous statutes were repealed, and increased provision made "to facilitate the erection of county lunatic asylums, and improve the treatment of lunatics." In this Act, it was ordered that an annual report should be made by the visitors to the Secretary of State and the Commissioners of Lunacy of the patients in the asylum.

In the year 1843,[6] in consequence of some difficulties which arose

[1] The reader, desirous of studying the divisions of this Act, is referred to the New Lunacy Acts, 8, 9 Vic. cc. 100–126, with an Introduction, Abstracts, Notes, and Index, by W. G. Lumley, Esq. [2] 16, 17 Vic. c. 96. [3] 48 Geo. III, c. 96.
[4] 51 Geo. III, c. 79; 55 Geo. III, c. 46; 59 Geo. III, c. 127; 5 Geo. IV, c. 71.
[5] 9 Geo. IV, c. 40. [6] 5, 6 Vic. c. 57, sec. 6.

from the action of the Poor-Law Amendment Act, several alterations were made in the details of former Acts; among which, it was required that the Clerk of the Guardians, instead of the Overseers, should make the annual return of lunatics.

Three years afterwards,[1] it was found to be absolutely necessary to enact more stringent regulations for the building of county asylums. By this Act, their erection was made no longer optional; boroughs and counties were compelled to provide, within a certain period, the requisite accommodation for pauper lunatics. The operation of this Act, although not practicable to its fullest extent, has, on the whole, been highly beneficial.

Subsequent Acts,—those namely of 1847[2] and 1848,[3]—were repealed by the important enactment of 1853:[4] "An Act to consolidate and amend the Laws for the Provision and Regulations of Lunatic Asylums for Counties and Boroughs, and for the Maintenance and Care of Pauper Lunatics in England." Since the passing of the above Act, a short one was passed in 1855 (August 14); and another, consisting of only a single section, in 1856 (July 29), which, in a few particulars, amended the Act of 1853.

[1] 8, 9 Vic. c. 126.
[2] 9, 10 Vic. c. 84.
[3] 10, 11 Vic. c. 43.
[4] 16 & 17 Vic. c. 97.

CHAPTER V.

OF THE DEFINITION OF INSANITY, AND OF CLASSIFICATION.

SECTION I.—*Definition of Insanity.*

WHAT Dr. Johnson said of any one who should attempt to define poetry, may very properly be applied to him who attempts the definition of insanity—namely, that such attempts at definition will only show the narrowness of the definer. We believe it to be impracticable to propose any definition entirely free from objection, which shall comprise every form of mental disorder. In regard to insanity in general, it may be asked, as Burton asks when speaking of melancholy—"Who can sufficiently speak of these symptoms, or prescribe rules to comprehend them? As Echo replied to the painter in Ausonius, 'If you must needs paint me, paint a voice;' if you will describe it, describe a fantastical conceit, a corrupt imagination, vain thoughts and different,—which who can do? The four-and-twenty letters make no more variety of words in diverse languages, than it produces diversity of symptoms in several persons."

Who can even supply an unexceptional definition of anger or of imagination? How much more difficult, then, must the task be when we are required, in the compass of a paragraph, to define a disease which in turn assumes as many forms, not only as there are fundamental faculties liable to disease, but as many forms as these combined in endless variety can assume, and still further varied according as one or more of them may be exalted, depressed, or obliterated? Such are the multiform morbid mental phenomena around which the psychologist has attempted to throw his all-embracing definitions, and which it is our purpose now to consider, and from which while confessing the impossibility of supplying any definition which is not more or less open to criticism, we may possibly draw something which will serve

us at least to describe, with tolerable clearness, though it should fail to define, the essential characters of mental alienation.

Locke's celebrated dictum, that "madmen do not appear to have lost the faculty of reasoning, but having joined together some ideas very strongly, they mistake them for truths, and err as men do who argue from wrong principles," and which has often been referred to as an acute and satisfactory definition of insanity, has only a very partial application,—comprising merely those cases, in fact, in which the patient is the subject of a delusion, illusion, or hallucination, and acts as he would properly act, were the delusion a reality. Nor was the definition adopted by Cullen sufficiently comprehensive—"a lesion of the intellectual faculties, without pyrexia and without coma." It is no doubt important to distinguish between the mental derangement which is only symptomatic of, and secondary to fever; but it is far from correct, and it is calculated to mislead the student, to speak of the absence of pyrexia as a condition necessary to the presence of insanity.

Dr. Combe's definition possesses many advantages, and is especially practical. "It is a prolonged departure, and without an adequate external cause, from the state of feeling and modes of thinking usual to the individual who is in health, that is the true feature of disorder of mind." Congenital conditions of diseased minds are, however, obviously excluded from this definition. Nor does it comprise sudden attacks of insanity. It has the merit, however, of making the mind of the individual himself, and not that of the physician, the standard of comparison by which to determine his insanity. The same writer is happier, we think, in his definition, when he speaks of insanity being a "morbid action in one, in several, or in the whole, of the cerebral organs; and, as its necessary consequence, functional derangement in one, in several, or in the whole of the mental faculties which these organs subserve."[1]

Dr. Spurzheim and M. Lélut both err in their definitions of insanity, in assuming that the patient must be unconscious of his disease; the former requiring "the incapacity of distinguishing the diseased functions," and the latter that there shall be "a disorder of the passions and will, without the patient's consciousness of such disorder." M. Lélut also requires a "lesion in the association of ideas" —a condition which, however frequently present, ought not to be allowed to constitute an essential condition.

[1] Observations on Mental Derangement (1831), p. 218.

Dr. Conolly, while admitting the difficulties which attach to any attempt to define insanity, has, however, offered a definition which will be found to include a large number of cases, and is as follows: "An impairment of one or more of the faculties of the mind, accompanied with, or inducing, a defect in the comparing faculty." It does not, however, comprise many of those instinctive and purely emotional acts, in which the patient's comparing faculty appears to remain intact.

Dr. Guislain has given the following definition of insanity: "It is a derangement of the mental faculties, morbid, apyrexial, and chronic, which deprives man of the power of thinking and acting freely, as regards his happiness, preservation, and responsibility." We must doubt, however, whether it was wise to fetter the definition by requiring the absence of pyrexia. We also think the word chronic is not essential to a definition of insanity, and is at least liable to be misunderstood. Lastly, we should prefer the expression thinking *or* acting, instead of thinking *and* acting. The latter objection applies, also, to the last clause of the definition adopted by M. Morel, who asserts insanity to be "a cerebral affection, idiopathic or sympathetic, destroying the individual's moral liberty, and constituting a derangement of his acts, tendencies, and sentiments, as well as a general or partial disorder in his ideas."

Whatever definition of insanity is adopted by the student, it is all-important that he should regard *disease* as an essential condition; in other words, that insanity is a condition in which the intellectual faculties, or the moral sentiments, or the animal propensities—any one, or all of them—have their free action destroyed by disease, whether congenital or acquired. He will not go far wrong if he regard insanity as a disease of the brain, affecting one or more of the mental faculties—intellectual or emotional. Dr. Bucknill's definition is substantially the same. He regards insanity as "a condition of the mind in which a false action of conception or judgment, a defective power of the will, or an uncontrollable violence of the emotions and instincts, have separately and conjointly, been produced by disease."[1]

"Mental health," observes a Continental writer, "consists in that state in which the will is free, and in which it can exercise its empire, without any obstacle. Any condition different to this is *a disease of*

[1] "Unsoundness of Mind in relation to Criminal Acts." Prize Essay. Second Edition: 1857.

the mind."[1] And if it be asked, what is the Will? it may be replied, according to the definition of Marc, that it is, in health, a moral faculty, which originates, directs, prevents, or modifies, the physical and moral acts which are submitted to it.

It is not, however, in any definition of mental derangement that the student will learn what insanity really is. It is in the description of the disorder that he will be able, so far as books can help him, to comprehend its true characteristics; and, most of all, in his actual observation of the insane. For, notwithstanding the difficulties which beset the construction of a definition, there are in practice comparatively few cases in which a difference of opinion exists, as to the fact of insanity being present in particular instances—a circumstance precisely analogous to what occurs in the exhibition of almost any of the passions or emotions of our mental constitution. Thus, while definitions of anger would differ with every definer, all would agree that anger is anger, when exhibited before them. A writer of eminence has defined love to be "desire kept temperate by reverence."[2] But who is the wiser for such a *definition?* How widely different, and how infinitely superior, is the *description* given by Shakspeare! (*As You Like It.* Act v, Scene 2.) Cases of insanity certainly exist in which doubt as to their real nature will be experienced by the student; but the existence of these (such as graduate between reason and mental disease) is, as Sir Henry Holland observes, but a part of that law of continuity which pervades so generally every part of creation.[3]

Section II.—*Of Classification.*

Very different arrangements have been made by different writers on the symptoms manifested by the insane, and they have grouped them upon somewhat opposite principles, guided in some instances by the most prominent symptoms, and in others by the supposed seat of the malady.

From the earliest periods, more or less distinction has been made when mental diseases have been treated of. The Father of Medicine did not venture on any classification, but a learned French editor of

[1] Solomon Maimon, Mag. de Psychol. Experimental. Tome ix, p. 9. See also Marc, vol. i, p. 85.

[2] Quoted by Walker (with approval) in his "Elements of Elocution."

[3] *Vide* "Chapters on Mental Physiology," 1852.

Hippocrates considers that, in his employment of terms, he recognized three distinct diseased conditions of the mind. Thus, he represents his use of *μανία* as synonymous with our *mania;* his use of *μελαγχολία* as synonymous with our *melancholy;* his use of *παρανοία* as synonymous with our *dementia.* But it must be admitted, that the use of these terms in the same sense is by no means constant, and, as has been stated elsewhere, it has been disputed whether Hippocrates attached the idea of gloom or sadness to *μελαγχολία.* He appears to have used the term *φρενίτις* in the sense of a febrile affection involving the brain, but not an idiopathic inflammation of that organ.[1]

Celsus treats of three kinds of insanity;—first, that which he calls, after the Greeks, phrenitis, and which is accompanied by febrile symptoms;—secondly, that which begins almost without fever, and consists in sadness, and is caused by black bile;—and, thirdly, a form which he divides into two genera—a distinction which is especially interesting. "For some err," he observes, "in having false images, and not in their whole mind, as Ajax and Orestes are represented in poetic fables; in others, the whole mind (or judgment) is affected."

Cicero appears to have criticised the Greeks in their use of terms. (Tusculan Disputations.)

The Roman law made two classes of the *dementes*, or mad; *furiosi*, those who were excited and violent; *mente capti*, those who were deficient in intellect.

Aretæus clearly distinguishes between melancholy and mania; the former, he says, "does not affect all the faculties of the mind; the patients are sad and dismayed; they are without fever." He, however, held that melancholy is only the initial stage, and simply a modification of mania. Maniacs are, he says, almost constantly raving, committing, or willing to commit, the most daring, and sometimes atrocious acts; but they may be given up to joy as well as to violence. Aretæus likewise clearly refers to dementia. "It is not uncommon to see the sensibility and intelligence of patients fall into such a state of degradation, that they sink into the most profound ignorance, forgetting even themselves, and pass the remainder of their existence like the brutes; their bodily appearance and habits lose all human dignity." He evidently regarded, however, all forms of insanity as simply modifications of the same essential disease; for he observes, with his accustomed acumen, "madness, or mania, is much varied in its modes, but is really one and the same in its nature;

[1] See "The Genuine Works of Hippocrates," vol. i, p. 357—*note.*

it consists in a continued alienation of the mind without fever; for, if it is accompanied by fever, it takes another name, has different causes, and exhibits different characteristics."

Cælius Aurelianus treats of insanity under the two heads,—Mania and Melancholy; the latter he regarded as not strictly a form of insanity; "from which disease it differs," he observes, "in that the stomach chiefly suffers, while in Madness it is the head." Under Mania, he comprised delusions, of which he gives some interesting examples.

Galen added but little to the nosology of insanity. With him, the forms of insanity appear to have been referred either to dementia (*ανοία*), imbecility (*μωρωσίς*), mania, or melancholia.

From this brief reference to ancient classifications, it will be seen how little of detail in this respect was attempted; at the same time, there was a tolerably clear recognition of three different morbid mental conditions,—that of excitement,—that of depression,—and that of fatuity.

We now pass to the consideration of modern systems of classification.

Sauvages, in his "Nosologia Methodica," terms his eighth class Vesaniæ, under which he comprised Hallucinationes, Morositates, and Deliria.

Vogel, in his ninth class—Paranoiæ, included among other states, those of Mania, Melancholia, and Amentia.

Linnæus called his fifth class Mentales, which he divided into three orders,—Ideales, Imaginarii, and Pathetici.

Upon these main divisions, complex and fanciful subdivisions were founded, in which very opposite diseases were brought together. A reference to them is not, however, without its use in showing the relation in which recent arrangements stand to them, and in indicating what, if any, progress has been made in our psychological nosology.

Such a history of opinion reflects the leading theories upon the nature of insanity, and marks new discoveries as they take place; for example, Prichard's classification would have been impossible before the time of Esquirol and Calmeil. Cullen's classification was, in his day, regarded as clear and natural; and, doubtless, it possessed advantages over the systems of Sauvages, Vogel, and Linnæus. For his larger classes, he chose external and sensible marks; and, rejecting conjectures respecting internal states of the body, he endeavored to fix on the symptoms present throughout the disease, and to employ as many as are absolutely necessary for determining the

disease, and no more. But, when he subdivided these, he left this safer principle, and attempted to follow causes too minutely. Hence, Pinel has severely reprimanded him for dividing mania into three divisions,—the one mental—the second corporeal—and the third obscure. "The vain explanations and gratuitous theories which he gives respecting observed facts, by way of unravelling their mechanism, are they not opposed to the dignified and cautious course which a faithful historian of mental disorders ought to impose upon himself?" He placed mental disorders in the class Neuroses, and under the order Vesaniæ; in which it was intended to include those disorders in which the judgment was impaired without coma or pyrexia. These he referred to four great divisions, viz.:—Amentia, Melancholia, and Oneirodinia. Amentia might be either congenital, senile, or acquired. Melancholia, by which he implied partial insanity, comprised eight principal varieties; some involving hallucinations of a painful, others of a pleasurable nature, and including Demonomania, Nostalgia, and Erotomania. Mania, by which he understood a general insanity (Insania Universalis) had a threefold division, according as the cause appeared to be mental, or corporeal, or obscure. Oneirodinia, the last of Cullen's divisions, included somnambulism and nightmare.

Dr. Arnold, in his observations on insanity, gave a very ingenious, but too elaborate classification of mental disorders. It excited considerable attention and discussion at the time of its publication, and attention has again been, recently, directed to it. As Dr. Arnold's work is in the hands of only a few, we transcribe his division:

I.—Ideal Insanity.

1. Phrenitic Insanity.
2. Incoherent "
3. Maniacal Insanity.
4. Sensitive "

II.—Notional Insanity.

5. Delusive Insanity.
6. Whimsical "
7. Fanciful "
8. Impulsive "
9. Scheming "
10. Vain or Self-Important Insanity.
11. Hypochondriacal "
12. Appetitive Insanity.
13. Pathetic Insanity, including
 - (1.) Amorous Insanity.
 - (2.) Jealous "
 - (3.) Avaricious "
 - (4.) Misanthropic "
 - (5.) Arrogant Insanity.
 - (6.) Irascible "
 - (7.) Abhorrent "
 - (8.) Suspicious "
 - (9.) Bashful "
 - (10.) Timid "
 - (11.) Sorrowful "
 - (12.) Distressful "
 - (13.) Nostalgic "
 - (14.) Superstitious "
 - (15.) Fanatical "
 - (16.) Desponding "

We shall have to refer more particularly to this classification, when speaking of Delusional Insanity.

Mason Good's Order Phrenetica, in his Class Neurotica, is subdivided into Ecphronia (Mania and Melancholia), Empathema (Ungovernable Passion), Alusia (Illusion), Aphelexia (Reverie), Paronina (Sleep Disturbance), and Moria (Fatuity).

Pinel classified mental diseases under four great divisions,—Mania, Melancholia, Dementia, and Idiotism. It is necessary to state the sense in which he employed these terms. That of Mania corresponded essentially to our use of the word. The most important observation which he made in reference to the forms of mental disease, was the recognition of a form of mania without delirium, or disorder of the understanding. Melancholia he described as a delirium which is exclusively directed upon one object, or series of objects, accompanied with sadness. Dementia implied weakness of the understanding and will; while idiotism did not answer to our idiocy, but was rather a more advanced stage of dementia. Pinel refers to the facts which he and other psychologists had collected, as "the only basis upon which can be established any system of nosology founded in nature."

Esquirol undoubtedly improved upon the classifications of insanity, including that of his master, which we have just mentioned. He thus describes the one he adopted:

1st. Lypemania (melancholy of the ancients); disorder of the faculties with respect to one or a small number of objects, with predominance of a sorrowful and depressing passion.

2d. Monomania; in which the disorder of the faculties is limited to one or a small number of objects, with excitement and predominance of a gay and expansive passion.

3d. Mania; in which the delirium extends to all kinds of objects, and is accompanied by excitement.

4th. Dementia, in which the insensate utter folly, because the organs of thought have lost their energy, and the strength requisite for their functions.

5th. Imbecility or Idiocy; in which the conformation of the organs has never been such, that those who are thus afflicted, can reason justly.

It will be seen that this author recognized a just distinction between dementia and imbecility, which Pinel did not. He introduced the terms lypemania and monomania.

Dr. Guislain's nosology may be taken as a fair example of an attempt at a natural classification. We must confess, that to us it appears to be neither euphonious, nor true to nature.

1. *Phrenalgia*, or Melancholy (exaltation des sentiments de tristesse).

2. *Phrenoplexia*, or Ecstasy (suspension des actes intellectuels avec roideur generale).

3. *Hyperphrenia*, or Mania (exaltation passionée du moral).

4. *Paraphrenia*, or Folly (anomalies de la volonté impulsive).

5. *Ideophrenia*, or Delirium, *i. e.*, disorder of the intellect (anomalies dans les idées).

6. *Aphrenia*, or Dementia (déchéance, obliteration des actes moraux et intellectuels).[1]

Dr. Conolly, in his Lectures, has treated of insanity under the generally recognized forms of mania, melancholia, dementia, &c. He observes, that "all forms of mental disorder are dependent on one of three states of the nervous system: a state of increased or diminished, or a state of unequal excitement of that system;" and that "all other forms of insanity appear to be mere varieties, or complications, or results."

The attempt to found a system of classification upon the pathology of insanity has been made by M. Parchappe, who has adopted the following division:

Acute Monomania,	*Insanity, with Paralysis*,
Acute Mania,	*Insanity, with Epilepsy*,
Acute Melancholia.	*Chronic Insanity*.

It must, however, be admitted, that we are not yet in a position, as regards our knowledge of the morbid appearances of the brain, to base our nosology upon the revelations of the dead-house. We can only wait an advance of knowledge which will render such a classification possible.

M. Baillarger has adopted a classification which, although decidedly too complex, deserves the attention of the reader desirous of pursuing further the subject now under consideration. It will be found in the "Psychological Journal," Oct. 1854.

Dr. Prichard grouped mental diseases under two great classes: the first comprising Moral Insanity, or Pathomania; the second, Intellectual Insanity, in contradistinction to the preceding. The latter comprises—*Monomania*, *Mania*, *Incoherence*, or *Dementia*.

[1] Guislain's Leçons Orales, tom. i, p. 94.

The writer thinks there is much to be said in favor of the attempt to classify the various forms of insanity, according to the mental functions affected. Linnæus, as we have seen, regarded the subject from this point of view;—so did Dr. Prichard. Dr. Bucknill observes, that insanity may be either intellectual, emotional, or volitional; and adds, that "though in the concrete it is not easy to find pure and unmixed cases under either of these heads, such cases do occasionally subject themselves to observation, and the experienced psychopathist will find little difficulty in apportioning a vast number of the other cases, according to their prominent character, under one or other of these headings."[1]

Dr. Noble classifies mental disorders under the three groups of Emotional, Notional, and Intelligential. We think that, with the exception of the first, the terms employed are to some extent open to the objection, that they do not sufficiently convey to the student the sense in which they are employed by the writer. So far as it can be done, we think it is an advantage to make use of a phraseology which readily conveys to the mind the leading character of the disease. Dr. Henry Monro has adopted a classification essentially the same as that of Dr. Noble. The reader will find the subject of nomenclature discussed at considerable length, by this writer, in the pages of the "Asylum Journal of Mental Science" (April, 1856, and January, 1857).

Could we determine with certainty the fundamental, radical, faculties of the mind, we might then, and only then, hope to possess a detailed and systematic nomenclature, according as one or more of them are involved. Did we possess a perfect knowledge of the physiology of the organ of the mind, we should naturally, as in other diseases, endeavor to adapt our terms to the *structure* affected; but, in the absence of this knowledge, it would seem reasonable to adapt them to the affected *function;* indeed, we do this to some extent in strictly physical diseases, for we speak of disorders of digestion, &c., as well as of the organs by which such processes are carried on. In the same way, we might speak of disorders of the intellect, sentiments, &c., instead of basing our classification exclusively on prominent symptoms, as is the case when mania, dementia, and similar terms, are alone employed. Accustomed as we are, however, to these expressions, it would be idle, if it were desirable, to attempt to discard them; and they are convenient in conveying, in most cases, a

[1] "Unsoundness of Mind in relation to Criminal Acts." Sec. Edit. 1857.

tolerably correct idea of the condition of the patient. In our present imperfect knowledge of the mind, in health and disease, we can scarcely hope to attain more by classifications than that which, indeed, is absolutely essential in a systematic treatise, a certain orderly arrangement of the varieties of mental alienation; in regard to which order we may say, as Dr. Lindley observes of a science admitting of far more exact observation: "Our genera, orders, and the like, are mere contrivances to facilitate the arrangement," &c.

Were we to attempt, in this volume, to arrange the forms of insanity on a metaphysical basis, we should treat of them under three heads. It might be sufficient to regard them under two—the one comprising disorders of the intellectual faculties, the other those of the feeling or emotions; but some convenience would attach to subdividing the latter class—the affective—into those sentiments which we are accustomed to regard as "moral," and as belonging more especially to man; and those propensities sometimes called "animal," which we would describe, rather than define, by saying, that when exhibited in excess they produce immoral acts. Indeed, animals possess, in degree, so many of the moral faculties which man prides himself on possessing, and man is so largely influenced by the propensities now referred to, that the term "animal" cannot be employed in a very strict sense. Metaphysicians have very generally recognized the twofold division of the mental powers above spoken of—the intellectual and the affective. Plato tells us that he distinguishes two principal faculties—that of *feeling*, and that of *thinking*. "To feel, is to be affected by an external impression; to think, is to operate upon our ideas." Among modern metaphysical writers, this distinction has no less been admitted and enforced. Thus Reid's analysis of the mental faculties comprised two great divisions, the *understanding* and the *will*, in which latter he included the appetites, passions, and affections. And Stewart, although he added a third class of faculties (those which belong to man as a member of a political body), did not the less admit the foregoing distinction. Dr. Thomas Brown, again, divided the internal affections of the mind into two orders,—"intellectual states of the mind, and the emotions." And his editor, Dr. Welsh, truly observes, that "intellectual states and emotions are felt by us as generically different, and must always thus be felt by us." In this division, Payne fully concurs, and justly remarks that "our emotions differ so manifestly from our intellectual states of mind, by that peculiar vividness of feeling which every one

understands, though it may be impossible to embody it in any verbal definition, that it is not a little singular that one should be confounded with the other, by any who have simply *remembered* and *compared;* and have also *loved* or *hated*, *desired* or *feared.*"

The further subdivision of the emotions into the higher sentiments, and the propensities, is to some extent (although not so decidedly) insisted upon by the Scotch metaphysicians. Mr. Morell more distinctly recognizes a threefold division of the powers of the human mind. Thus, in combating the phrenologists, whose triple division is well known, he observes, "We did not require any phrenological aid to convince us, that the *animal passions*, the *moral feelings*, and the *intellect*, present three different classes of phenomena, which cannot be perfectly resolved into each other."[1] Lewes, in his *Biographical History of Philosophy*, observes that "the subdivision of the affective faculties into propensities and sentiments" has passed into general acceptance. By Fichte, the intelligence, the feelings, and the will, were regarded as essentially distinct. And Bain, in his excellent work on the *Senses and Intellect*, concludes that the most convenient, as well as most truthful division, is into "the Intellect, Emotion, and Volition." Dr. Copland adopts, as the most practically useful classification of the mind,—the Intellectual Powers; the Moral Affections; and the Instinctive Desires and Feelings, or "those strong and immediate incentives to action in the lower animals, which are controlled by reason in man."[2] Heinroth's classification of mental diseases is based upon a very similar analysis of the mind, and deserves the attention of the student. It is remarkable that he who has taken most untenable ground, in regard to the nature and seat of insanity, and some of whose dogmas are falsified by every day's experience, should have adopted a classification which, if we have regard to mental analysis at all, possesses decided merit.

If we were ourselves to attempt any analogous scheme, we should adopt the threefold classification of the mental faculties, which, although based on no certainly proved physiological system, has, as we have seen, the support of not a few analyzers of the human mind.

Thus:

[1] An Historical and Critical Review of the Speculative Philosophy of Europe in the 18th century. Vol. i, p. 505.

[2] Dict. Pract. Med. p. 143.

[3] The reader will find it in Prichard's "Treatise on Insanity," p. 9.

DISORDERS OF THE MIND, INVOLVING—

CLASS I.—*The Intellect.*

	FORMS OF INSANITY.
Order 1. Development incomplete.	IDIOCY. IMBECILITY.
Order 2. Invasion of Disease after development.	DEMENTIA. MONOMANIA (Intellectual). INCLUDING Delusions. Illusions. Hallucinations.

CLASS II.—*The Moral Sentiments.*

Order 1. Development incomplete.	MORAL IDIOCY. (?) MORAL IMBECILITY.
Order 2. Invasion of Disease after development.	MORAL INSANITY MELANCHOLIA— 1. Religious. 2. Hypochondriacal. 3. Nostalgic. EXALTATION, regarding 1. Religion. 2. Pride. 3. Vanity. 4. Ambition.

CLASS III.—*The Propensities.*

Order 1. General.	MANIA (Usually a disorder of all the faculties).
Order 2. Partial.	HOMICIDAL MANIA. SUICIDAL MANIA. KLEPTOMANIA. EROTOMANIA. PYROMANIA. DIPSOMANIA.

We should, however, only employ these divisions as a chart by which we might shape our course for something like firm land, without allowing ourselves to be lost in the metaphysician's "Ocean of Doubts." They are, after all, only the points and headlands of a recently discovered coast, which navigators have but partially delineated.

In bringing the phenomena of diseased mind into relation with such classification, we should endeavor to refer every form of disease to that class or group of the mental faculties which the disease neces-

sarily, though not exclusively, involves in its course. Thus, delusional insanity necessarily involves the intellectual faculties. The same is true of dementia, idiocy, and imbecility; although these, in general, destroy the integrity of the moral feelings also. The animal propensities are, however, so far from sympathizing with the condition of the intellect, that they may be in a state of vigorous action. Again, mania implies an excitement which so almost invariably involves the emotions, that although it would be incorrect to speak of it as necessarily developing violence or passion, it belongs, on the above principle, more to the third class, than to either of the other two.

In homicidal mania, the animal propensities are, of necessity, called into action, whether the homicidal act be the result of their diseased action, in association with a healthy condition of the higher sentiments; or of their normal action, when associated with, and therefore uncontrolled by, a state of the moral sense rendered powerless or feeble by disease, be it congenital or acquired, or the result of functional disorder or structural changes. We usually become cognizant of diseased mental conditions by *positive*—not by *negative* symptoms. Some overt act or explosion of passion will, in general, be the first proof of such disease of the moral sentiments, as involves their occlusion or inertness, when they ought to be in exercise. Should the disease be of such a nature as to increase the *activity* of these faculties, then we have an exhibition of religious excitement or ecstasy.

Again, in suicidal insanity, from whatever cause or motive the fatal act is committed, its commission clearly requires the action of some of the propensities; and although, in some instances, their action is very secondary, a like apparent anomaly of location will, as we have seen, occasionally attach to cases of homicidal mania.

Some such classification as the above we should pursue, if we deemed it wise, in the present treatise, to recommend to the student's adoption, one which is based upon metaphysical divisions. We conclude, however, to rest satisfied with simply placing before him little more than the typical forms of mental disease, with but slight reference to mental analysis, and with none to the pathological conditions with which these forms are doubtless associated, but which hitherto have eluded the most searching examination of the scalpel or the microscope, so far as regards the particular character of the disease, or the locality affected in connection with particular forms of insanity.

Idiocy—Dementia—Monomania—Melancholia—Mania,—these may be said to constitute the generally recognized classification of insanity; and it is one which, so far as it goes, it is on several accounts practically convenient to retain. We shall not reject these terms; but the following more comprehensive grouping is added, in the hope that it may assist the reader. It will also serve to indicate the order in which, for the most part, the various forms of mental disease will be treated of in the subsequent chapters. Examples of Monomania may occur under either Delusional or Emotional Insanity.

Idiocy.	
Dementia.	Primary. Secondary.
Delusional Insanity.	Of a melancholy character. Of an exalted character. Of a destructive character.
Emotional Insanity.	Melancholia, without delusion. Mania, with general extravagance of conduct ("Moral Insanity"). " with disposition to homicide. " with disposition to suicide. " with disposition to theft, &c.
Mania.	Acute. Chronic.

All the above forms of Mental Disorder may be complicated with General Paralysis, or with Epilepsy.

CHAPTER VI.

OF THE VARIOUS FORMS OF MENTAL DISEASE.

Section I.—*Of Idiocy, Cretinism, and Imbecility.*

In general, our practical knowledge of the characters of mental disorder must, like those of other diseases, be derived from two grand sources,—the subjective and the objective. The former is exhibited in what insane persons tell us of themselves in their conversation and autobiographies, and is highly instructive; the latter includes the phenomena observed by ourselves as spectators of the disease. Much information may be obtained by subjecting the patient to processes of inquiry, by way of investigation and experiment, calculated to test his actual mental condition, not only in regard to what he *does* manifest, but also in regard to what he *can* manifest. This latter mode of determining the patient's condition we are constantly resorting to, almost unconsciously; but it is one which M. Falret has laid especial stress upon, and is, doubtless, one which admits of, and deserves, much more systematic cultivation than it has hitherto received. From all these various sources, therefore, we must derive our information of the different forms which mental disorders assume, by a careful observation of symptoms; by eliciting the actual condition of the mental powers of the patient by systematic tests (percussing the patient, as Guislain would say); and by ascertaining his sensations.

There are two very opposite states, in either of which defective mental power may have originated, and from which the observer may trace abnormal intellectual conditions. He might either begin his investigation with the abortive condition of the intellect, known as idiocy; or he might regard the earliest departure from a sound mental status, as exhibited in incipient dementia. To comprehend the natural history of unsoundness of mind aright, both methods of inquiry ought to be pursued. We do not speak here of the patho-

logical changes accompanying these states, but only of the mental phenomena.

We now proceed with IDIOCY—a condition of defective development (ἰδιος *privatus*), in which the subjective symptoms of the patient are ascertainable in only a very limited degree.

SYN. *Idiotie*, (Fr.); *Idiotismò*, (Ital.); *Gefühllosigkeit*, (Ger.); Vogel, Sauvages, and others speak of idiocy under the terms, *fatuitas*, *imbecillitas*, *amentia*.

Pinel did not restrict this term to a congenital condition. He says, "Idiocy is the abolition, more or less complete, either of the understanding or the affections." Again, "Idiots form a very numerous class in our hospitals, and their condition often is the result of the too active treatment they have undergone elsewhere. Those who are so from birth, have sometimes a malformation of the skull," &c.[1]

Esquirol appears to be the first medical writer who very clearly defined the term, and restricted it to a congenital defect. "Idiocy," he observes, "is not a disease, but a condition in which the intellectual faculties are never manifested; or have never been developed sufficiently to enable the idiot to acquire such an amount of knowledge, as persons of his own age, and placed in similar circumstances with himself, are capable of receiving. Idiocy commences with life, or at that age which precedes the development of the intellectual and affective faculties, which are from the first, what they are doomed to be during the whole period of existence." Subsequently, he says, "Dementia and idiocy differ essentially; otherwise, the principles of every classification are illusory. . . . A man in a state of dementia is deprived of advantages which he formerly enjoyed. He was a rich man who has become poor. The idiot, on the contrary, has always been in a state of want and misery."

This is the definition of idiocy usually adopted. Happily, however, the education of this unfortunate class has, in modern times, so far modified its correctness, that it would no longer be right to speak of the faculties of the idiot being doomed to remain stationary, or to say (as Esquirol proceeds to do), "The condition of a man in a state of dementia may change—that of the idiot is ever the same." We shall only, therefore, adopt Esquirol's description, so far as it represents idiocy as a congenital deficiency of the mental powers.

Lord Coke's definition is substantially the same as Esquirol's:

[1] Traité Medico-philosophique, sur l'Alienation Mentale. Second edit. 1809.

"One who from his nativity, by a perpetual infirmity, is *non compos mentis*."[1]

Another legal definition of the word is, "He that shall be said to be a sot and idiot from his birth, is such a person who cannot count or number twenty, and tell who was his father or mother, nor how old he is, so that it may appear that he hath no understanding or reason, what shall be for his profit, or what for his loss; but, if he have sufficient understanding to know and understand his letters, and to read by teaching or information, he is not an idiot."[2]

Dr. Prichard[3] defines idiocy as "A state in which the mental faculties have been wanting from birth, or have not been manifested at the period at which they are usually developed. Idiocy is an original defect, and is, by this circumstance as well as by its phenomena, distinguished from that fatuity that results from disease, or from protracted age. The latter, as we have seen, is dementia or incoherence, and it is important that this affection should not be confounded with idiocy." Guislain's definition of idiocy is as follows: "Partial or complete deficiency of the mental faculties, accompanied generally by a defect in the power of locomotion; a malady belonging to a congenital condition." "Most modern authors," he elsewhere observes, "have made idiocy a distinct genus. I do not see the necessity for establishing this distinction. On this account, I include it in the genus *amentia*, *dementia*, *verecordia*, *fatuitas*."[4] We shall, however, follow Esquirol and Prichard in the use of the word, in distinguishing it from dementia.

So much for the definition of Idiocy. We will now consider its characters. These vary according to the degree in which the cerebro-spinal system is involved. In the lower forms of idiocy, the functions of organic or *vegetable* life, are ill performed; the idiot is below the plant; nutrition is most imperfect, and the power of reproduction null. He would perish but for the assistance of others.

The functions of *animal* life are likewise, to a greater or less extent, impaired; he may be scarcely alive to external impressions, or possess the power of executing spontaneous acts; in the lowest type, he is blind, deaf, and dumb; the dejections are involuntary; he is, indeed, nothing more than "a living, dead man." "La dégradation

[1] Coke's Littleton, 247 a.

[2] 1 Fitzherbert, Natura Brevium, 583, ed. 1652 (cited by Ray).

[3] Treatise on Insanity, p. 318.

[4] Leçons Orales sur les Phrénopathies, Tome premier, pp. 309, 343.

des facultés intellectuelles," says Guislain, "atteint un degré qui fait descendre l'homme audessous de l'animal, qui le met même plus bas que les plantes, vu que toutes les fonctions sont tellement réduites que, sans l'assistance d'une autre personne, certains idiots seraient dans l'impossibilité de pourvoir à leur nourriture."

Ascending to the higher functions, we observe in idiots endless varieties in regard to intellectual and moral capacity. "Some possess aptitudes and inclinations, and almost all, even those who are deprived of the power of speech, sing, and retain a recollection of tunes. Though no constant and direct relation subsists between the vice of organization and the various degrees of sensibility and understanding among idiots; we must be convinced, that the more considerable are the organic deformities, the more marked are the imperfections of the sensibility and intelligence. No particular volume or form of the head is peculiar to idiocy; notwithstanding, it is proper to observe, that the smallest heads appertain to the most degraded class of idiots."[1] The degraded condition of the idiot is very clearly displayed in his vacant stare, in the thick everted lips, the slavering mouth, the irregular teeth, the gums often swollen, the frequent strabismus, the general want of symmetry, the absence or defect of the senses of sight, hearing and speech, taste and smell. His staggering walk is also very striking; yet he seems as if he must be in motion, if he is on his feet; and, if seated, he has a difficulty in balancing himself. "The vacuity in the expression," observes an eminent psychological writer, "the inability to look at any one with precision, the excess of partial sensibility, the automatic movements, the want of muscular power, the inability to move, at will, parts of the body not actually paralyzed, are peculiar to idiocy; while dumbness, deafness, local or general insensibility, the relaxation of the sphincters, the abolition of taste and smell, atony or extreme general irritability, disordered nutrition, are not symptoms essential to, but only frequently associated with idiocy." Psychologically, we may regard the idiot, with M. Seguin, as badly served by imperfect organs (mal servi par des organes imparfaits); the instincts limited, but imperious; the sensations determining in him the exercise of attention, comparison, judgment, memory, foresight, and will; in a word, differing from every one else, in that he wants that synergetic action of the faculties, and that spontaneity, from which springs free moral agency.

Esquirol based his division of idiots upon the power of speech they

[1] Esquirol. Maladies Mentales (Hunt's edition), p. 470.

possess. In the *first* degree of idiocy, properly so called, the idiot according to him, uses merely words and short phrases; idiots of the *second* degree, articulate only monosyllables or certain cries; finally, in the *third* degree of idiocy, there is neither speech nor phrases, words nor monosyllables. And, doubtless, these divisions are true to nature and practically useful; it seems, however, more in accordance with our present knowledge of the nervous centres, to regard the various stages of idiocy, according to the degree in which the reflex and volitional functions are manifested.

We might from this point of view, speak of three classes of idiots: first, those who exhibit nothing beyond the reflex movements known as the excito-motor; second, those whose reflex acts are consensual or sensori-motor, including those of an ideo-motor and emotional character; third, those who manifest volition—whose ideas produce some intellectual operations, and consequent *will.*

This arrangement will be found to accord, in great measure, with that adopted by Georget, although he employed different modes of expression. He has four classes; but if we withdraw the fourth, which refers more especially to imbeciles, we have the three following: first, those who have no mental existence, who cannot attend to any of their wants, and would certainly die if we did not take care of them; second, those who have some sensations, shun the cold, and give notice that they require food, but do not attach themselves to anything, and would never go in search of victuals, all their actions being without reflection or object; third, those who are conscious of some of their sensations, who recognize the persons and objects by which they are surrounded, and are susceptible of attachment to those who do them good; they employ signs more or less expressive, and make known their wants either by gestures or cries, or even by words badly articulated.

As an illustration of the first class, we may refer to a very interesting case mentioned by Dr. Carpenter, on the authority of the late Mr. Wallis, of Hull. Although reared to the age of ten years, this idiot never, from the time of his birth, exhibited any distinct indication of consciousness; there was no apparent malformation of the brain, yet no movements were ever witnessed which seemed to proceed from any higher centre than the medulla oblongata. Food had to be carried back into the pharynx, in order to be grasped by the constrictors.[1]

[1] "Human Physiology," 4th edition, p. 360. We understand this idiot is dead, without any autopsy having been made.

An example of a very low form of idiocy has been given by Pinel, in his *Traité Médico-philosophique sur l'Alienation Mentale*,[1] but it is of a higher grade than the preceding: "One of the most singular and extraordinary cases which has ever been observed," says he, "is that of a young female idiot, eleven years old, whose skull I have figured, and who, in the form of her head, her tastes, her mode of living, seemed to approach to the instincts of a sheep. For the two months and a half she was at the Salpêtrière, she exhibited an especial repugnance to meat, and ate, with avidity, vegetable substances, such as peas, apples, salad, and bread; she only drank water, and manifested, in her way, a lively appreciation of all the care which the attendant took of her. These demonstrations of feeling were confined to the expression of these two words, *bé, ma tante;* for she could not utter any other words, and appeared entirely silent, solely from wanting ideas; otherwise her tongue seemed to possess all its mobility; she was accustomed to exercise alternate movements of extension and flexion of the head, in supporting it (like a sheep) against the breast of her nurse, to testify her gratitude. Her back, loins, and shoulders were covered with long flexible hairs, from one to two inches in length, and which resembled wool in texture. In making efforts to get out of the bath, she would repeat, in an acute tone, bé, bé, bé. She would not sit, but lay on the ground," "le corps roulé, et etendu sur la terre, à la manière de brebis."

It is remarkable that, as has been already stated, many idiots whose faculties are scarcely to be recognized, have excelled in musical talents. In the instance of Quénau, an idiot at the Salpêtrière, it was necessary to dress her; when she attempted to speak, she uttered a hoarse cry, or a sort of articulate, jerking, grunt, which she continued till she was understood. She comprehended, by means of a gesture, what was intended to be communicated to her, provided it had reference to nothing beyond the most common wants of life. Yet this idiot was a musician.

An idiotic female who died at the Retreat, above seventy years of age, afforded an example of the third class; her ideas produced some intellectual operations and consequent will. The almost lady-like propriety which characterized her, was remarkable, and was, in great measure, due to the excessive pains taken with her when young. Some would call this a case of congenital imbecility rather than idiocy; but she could never be taught to read or write. She was

[1] Second Edition (1809), p. 182.

full of delusions about children; she imagined almost every day that she was in labor; and was generally actively engaged in chiding the children which she already possessed, forcibly recalling to recollection the doggrel:

"There was an old woman that lived in a shoe," &c.

She died of ovarian disease. The brain was very small, and only weighed 22¾oz. (avoirdupois); the cerebrum, 19½; and the cerebellum, 3¼. The weight of the brain, in the new-born infant, is stated by Tiedemann, at from 10 to 13¼oz.; the smallest brain recorded by Solly weighed 19¾ (avoirdupois); and the next smallest, 22½oz. And if we take the average weight of the female brain at 44oz., and deduct 1oz. for each decennial period after 50 years of age, we have a brain about 20oz. below the average weight, and 41¼oz. below that of Cuvier's, which weighed 64oz. avoirdupois. In this case, the membranes, with the exception of slight opacity of the arachnoid, were healthy, and not adherent; there was a little fluid upon and beneath the arachnoid; the vessels generally were empty. The thickness of the gray matter appeared to be fairly proportionate to the white; the convolutions were small, and the sulci shallow, especially superiorly; there was an unusually wide and deep division between the posterior and middle lobes; the corpora striata and optic thalami small, but healthy; the ventricles normal, fluid slight in quantity; the pineal gland large and sacculated, like a hollow grape. The commissures and the septum lucidum were entire. The following are the measurements of the head taken from the cast:

Circumference,	18·87 in.
From the root of the nose to the spine of the occiput,	11·10 "
Antero-posterior diameter,	6·62 "
Transverse,	4·75 "
Total,	41·34 "

These contrast very strongly with the same measurements of Etty, the painter:

Circumference,	24·75 in.
From the root of the nose to the spine of the occiput,	16· 5 "
Antero-posterior diameter,	8·75 "
Transverse,	6·37 "
Total,	55·92 "

In the instance of the sheep-like idiot recorded by Pinel, the antero-posterior diameter was 5·11 inches; and the transverse 3·58; the circumference is not given. The measurements of Quénau's head were as follow:

Circumference,	20·07 in.
From the root of the nose to the spine of the occiput,	11·33 "
Antero-posterior diameter,	6·92 "
Transverse,	5·63 "
Total,	43·95 "

The corresponding measurements of the famous "Aztec" boy, whom we can only regard as an idiot, were as follow:

Circumference,	13·25 in.
From the root of the nose to the spine of the occiput,	7·75 "
Antero-posterior diameter,	4· 5 "
Transverse,	3·75 "
Total,	28·80 "

It must not be concluded, from these examples of microcephalous idiots, that a small head is a necessary accompaniment of idiocy. On the contrary, many idiots have large heads, leaving out of the question instances of hydrocephalus. Dr. Parchappe has stated, as the result of very careful inquiry, that if there exists a general relation between the volume of the brain and the degree of intelligence, "facts are wanting to deduce rigorously, from this relation, the different degrees of intellectual and moral capacity." Of 100 idiotic heads examined by M. Belhomme, 84 presented more or less decided malformations of the forehead, occiput, and lateral portions. Twenty-five per cent. had a well-marked want of symmetry. On bringing together a hundred well-proportioned heads, he did not find a single idiot among the number. Gallice, after making a large number of observations, came to the conclusion, that the more intelligent the idiot is, the larger will be his head; but that this results from a greater development of the *occiput*. And this certainly accords with what Leuret had previously recorded, that the occiput in idiots is remarkably small. Desmaisons, in his "Memoir on the Form of the Head in Idiots," concludes that idiocy sometimes exists without any malformation; that it is impossible to fix upon any malformation peculiar to idiocy, when the volume of the head and its symmetry are retained; and that, in cases of this kind, flattening of the posterior

portion of the head is as common as that of the forehead. Gall laid it down as an axiom, that idiocy must exist when the head is not more than 13 inches in circumference; and he says that the measurement of heads in cases of complete imbecility, up to the ordinary exercise of the intellectual faculties, is comprehended between the following limits: the circumference varies from 14 to 17 inches; and the arc, between the root of the nose and the occipital foramen, measures nearly 12. These dimensions, he adds, are accompanied with a greater or less degree of stupidity or fatuity, inability (more or less complete) of fixing the attention on a determinate object, vague sentiments, an irregular train of ideas, speech consisting of broken phrases, &c., and blind and irregular instincts.[1]

Esquirol's statements appear to be somewhat contradictory; for while a table of measurements, which he gives, exhibits a decided decrease in the size of the heads of idiots, he says, "The dimensions of the crania of idiots are equal to those of other men;" and concludes by exclaiming, "Que de travaux encore ne reste-t-il point à faire, que de rechérches, avant de pouvoir préciser la coincidence de volume et de forme avec la capacité intellectuelle!"

After this review of the principal characters of Idiocy, we will consider those of Cretinism, with which it is nearly allied, yet from which it differs in some important particulars. In what these consist we shall shortly endeavor to determine.

First, what is the derivation of the word? Some authors, including Foderé, have derived it from *chrétien*, in consequence of the popular notion that the cretin is especially blessed by Heaven; others refer the derivation to the word *cretina*, which signifies *stupid*, or silly—apparently a more feasible explanation of the word. Esquirol suggested that the term originated in *cretine*, alluvial soil, believing that an alluvial region was among the causes of the malady.

The terms applied to these wretched beings have, of course, varied in different countries. In Savoy, they are called *crétins* or *fous*. In some parts of France, they go by the name of *cagots*. In the Valais, again, cretins of the lowest class are called *tschengen;* those of a higher grade, *trissel;* and those of the highest, *gauch*. In Styria, they are called *dotteln*. In Italy, *scempiaggine*. In Piedmont, *foulitre*, &c.

These different terms indicate, at once, that cretinism is not confined to Switzerland, from which we hear most about it, but that it is

[1] "The Functions of the Brain," vol. ii, p. 214.

endemic in many countries. But, more than this, it is sporadic; an occasional case being found, presenting all the characters of genuine cretinism, in the cities of various countries, including England. One such case, although in a very modified form, was admitted into the York Hospital, to be treated for bronchocele. When asked how he was, his constant reply was, "My belly aches, and my breast is sore;" and it might have been supposed this was the extent of his vocabulary. A report of this case will be found in *The Medical Times and Gazette*, September 15, 1855, a portion of which may be cited here: "He is very short for his age (14), is of rather fair, but pale and earthy complexion, and of a quiet, apathetic expression of countenance. He is not destitute of intelligence, though very decidedly below par. He has been sent to school regularly, and has learnt to write fairly; but can scarcely read at all. He answers questions in a slow, hesitating manner, and can with difficulty be got to speak to strangers. . . . The abdomen is large and tumid, but there are no indications of organic disease either in it or the chest. The thyroid gland, although now much reduced in size by treatment, is still enlarged in all its proportions, to a degree quite perceptible to the eye. *The arch of the palate is high and narrow*, and the teeth have grown very irregularly. The muscles generally appear fairly developed, and feel firm to the touch. He can walk and run, but is not active. In regard to his history, it was ascertained that both parents were very short in stature; and although neither was so deficient in mind as to approach imbecility, yet both were peculiar in temper, and by no means of vigorous intellect. The father is still living; the mother died of phthisis, with acute intestinal complication, about six years ago. Idiocy is not known to have ever shown itself in the family of either; nor is it certain that any relatives have ever had bronchocele. Both parents were born in York, and have lived there all their lives; they were in no way related before marriage. All their children, four in number, are delicate and ailing." The eldest died, under our care, of granular disease of the kidney. Although 20 years of age, any one would have supposed him to have been between 10 and 12. His height did not exceed 4 feet 2 inches. He was an exceedingly pale, cachectic, ill-conditioned boy. His expression, although not intelligent, did not present any striking indication of imbecility. There was no enlargement of the thyroid gland. The arch of the palate was decidedly high and narrow; the teeth bad, and very irregular. There was no hair on the pubes or in the axillæ.

In regard to his mental condition, there was a general dulness about him; his replies to questions, which were very deliberate, and in a weak voice, were generally monosyllabic. He was 8 years old before he could talk, from which period he had everything to learn. He ceased to grow at 17 years of age. It must be added to the above, that the father is a miserly man, who appears to have cruelly treated and starved his children. The locality in which they lived was by no means healthy. The autopsy exhibited a want of symmetry in the two halves of the cerebrum. The dura mater was adherent in the superior portion of the brain, and the sub-arachnoid tissue infiltrated with turbid serum. The skull was decidedly thin. With the exception of a soft condition of the optic thalami, the brain was healthy.

Cretinism is said to be first mentioned in a will of the 15th century, in which the testator provides for the safe keeping of an innocent. Mention is made of goître at a much earlier period, in classic times, since Juvenal says:

"Quis tumidum guttur miratur in Alpibus?"

Shakspeare, never at a loss for an illustration, has not overlooked goître. He makes Gonzalo say:

"Faith, sir, you need not fear: when we were boys,
Who would believe that there were mountaineers,
Dew-lapped like bulls, whose throats had hanging at them,
Wallets of flesh?——which now we find
Each putter out on five for one, will bring us
Good warrant of."[1]

The Swiss cretins are thus spoken of by Felix Plater, so far back as 1500: "Sunt et aliqui stulti qui, præter innatam stultitiam, vitiis quibusdam notati sunt a natura; quorum aliqui passim occurrunt, maxime vero in certis regionibus frequentiores inveniuntur, uti in Valesio pago, Bremis appelato; plurimos in viis sedentes, quorum aliqui ad me Sedunum delati fuerunt, an forte aliquid auxilii ipsis adferre possem, vidi, capite informi, interdum lingua immensa et tumida, mutos, strumoso simul aliquando gutture, aspectu deformi, qui ante suas ædes collocati, torvo visu solem intuebantur, ac baccillis digitorum interstitiis inditis corpusque varie torquentes, oreque diducto, cachinnum et admirationem prætereuntibus movebant."

[1] *Tempest*, Act iii, Scene iii.

In later times, numerous writers have given descriptions of this unfortunate class; the first systematic treatise was by Foderé, in the year 1792. He was followed by Michaëlis, Autenrieth, the Wenzels, and others.

About ten years ago, a Commission was appointed by Charles Albert, the then King of Sardinia, "touché du sort malheureux d'un grand nombre de ses sujets," in order to investigate the causes and nature of cretinism, and to suggest means for the relief of so terrible a malady.

From the particulars collected and presented by this commission in their report, we are able to obtain much valuable information in regard to cretinism.[1]

No name, perhaps, is better known in connection with the subject than that of Dr. Guggenbuhl, who, in 1841, established a hospital upon the Abendberg, in the canton of Berne, for the purpose of caring for, and endeavoring to educate, cretins. Strangely opposite opinions have been, and still are entertained respecting Dr. Guggenbuhl and his treatment; but we are disposed to think that, making every allowance for any disposition he may have to exaggerate his own merits, he has done a great work in an unpromising field, and benefited, if he has not cured,

> "A strangely visited people,
> All swollen and ulcerous, pitiful to the eye,
> The mere despair of surgery;"—

and, it may be added, of psychological medicine too.

Much discrepancy exists in the statements of authors, as to whether cretinism can be recognized at birth. The true state of the case, according to the report already referred to, appears to be this: that there is no pathognomonic sign by which it can be then diagnosed, but that a certain combination of symptoms may allow us to prognosticate, in childhood, the future development of cretinism. In well-marked cases, it is stated that, after the fifth or sixth month, the child presents the following symptoms: the development of the body proceeds very slowly; the child, though weak, is remarkably stout, and appears swollen; the color of the skin is sometimes dusky, sometimes yellow, sometimes natural; the head is large; the fontanelles widely separated, and sometimes all the sutures disjointed; the expression is stupid; the appetite is voracious, and much time is

[1] *Vide* article in the *Annales Medico-Psychologiques*, April, 1850.

passed in sleep. The belly is swollen; the extremities are generally attenuated; the neck is thick, without, however, being always goîtrous; teething is not completed for many years, and is accompanied by an offensive salivation, and frequently by convulsions. Usually, the child cannot stand before its sixth or seventh year, and it is then that it begins to articulate certain sounds, supposing it has not been deaf from birth. The voice is hoarse and shrill, and words are spoken with difficulty. The development of cretinism, strictly speaking, commences about seven; and it is asserted, that no instance is known of a child becoming so after the seventh year, under the influence of local circumstances alone.

Although speaking of the differences of opinion, as to whether or not cretinism can be diagnosed at birth, we did not mean it to be inferred, that there are no cases really congenital. On the contrary, the classification by Dr. Guggenbuhl recognizes a congenital class. His second division includes those affected with rachitis; the third, those specially characterized by general atrophy; and the fourth, those cases complicated with hydrocephalus.

Three classes of cretins are generally spoken of by authors, according to the degree of defective development.

1st. Cretins; manifesting only vegetative functions, and deprived entirely of reproductive and intellectual faculties, including the power of speech.

2d. Semi-cretins; possessing the power of reproduction, and some faculty of speech: intellectual faculties limited to corporeal wants.

3d. Cretinous; having intellectual faculties superior to the former, and able, in some degree, to apply to trade and other employments.

Those of the second and third class have been called megalocéphales by M. Cerise, who measured their crania in 105 instances, and found them more capacious than those of the first class. There appears to be almost invariably in the skulls of cretins, a fronto-occipital depression, while the sides of the head are prominent. Thus, in a hundred measurements, it was found by Dr. Trombotto that the antero-posterior diameter was less than the transverse by four centimètres. The head of the cretin is very generally more or less in the form of a cone, with its apex at the junction of the sagittal and lambdoidal sutures.

The character of the face appears to remain unchanged from puberty to old age. The eyes, in addition to their want of expression, are generally affected with strabismus, the zygomatic arch is

very large, the mouth of remarkable size, and the lips thick, the lower one hanging down. The inferior maxilla is small, retreating, and its angle very obtuse, as may be seen in the plates in Carus's atlas; the contrary is stated to be the case by Dr. Brierre de Boismont, who observes, that the lower jaw is very strong, and in advance of the upper.

In regard to the stature of cretins, there are many in Savoy below three feet. They rarely exceed four feet nine inches, and are mostly between two and four feet.

The symptoms of cretinism may be thus recapitulated, almost in the words of M. Brierre de Boismont: Peculiarity in the form of the head; a disproportion between all or certain parts of the body, in consequence of defective development; imperfect nutrition, to a greater or less extent; generally, absolute powerlessness of reproduction, or, at any rate, great torpidity in this respect; little muscular energy; voluntary movements undecided; inability to stand beyond a short time; total want, or a marked imperfection, of language; imbecility more or less decidedly exhibited in the countenance, as well as in the character.

"The coexistence of all the preceding conditions," observes the above writer, "constitutes absolute cretinism; the absence of any one of them and the diminution of their intensity, constitutes semi-cretinism. Between these two extremes, the gradations are infinite."

After this review of the symptoms manifested by cretins, we recur to the inquiry, In what does a cretin differ from an idiot?

In the first place, an idiot is born with his deficient development; the malady is constitutional—congenital. The cretin, on the contrary, for some time appears to be free from disease, and, if placed under favorable circumstances, might escape, although it is obvious that he must have a greater predisposition to this peculiar condition, than a neighbor who does not become a cretin; this predisposition is clearly hereditary, and Foderé observed, that if a male affected with goître, the son of a goîtrous semi-cretin, married a semi-cretin, their offspring was a complete cretin. If, on the contrary, a male cretin of the second class married a healthy mountaineer, the offspring would be a cretin of the best (the third) class. But, if the races did not continue to cross, then the offspring of such a union resembled the grandfather and not the father.

Secondly—cretinism is endemic; idiocy is not so, but appears in our own country, without any particular regard to locality. At the

same time, were cretinism and idiocy alike in other respects, this point of difference could not be maintained, for we should have to regard the former, in that case, as endemic idiocy; there would be no difference in their nature.

Thirdly—the brown or yellow color of the skin, the remarkably high and arched palate, the considerable proportion of cases in which the thyroid gland is enlarged, present points of contrast to idiocy.

Fourthly—cretinism is more curable than idiocy.

But, fifthly and lastly, the most marked distinction exists in the greater degree in which in cretinism, both systems, the nervous and muscular, are affected. In idiocy, there may be an entire absence of the mental functions, without anything like the same amount of loss of muscular power and co-ordination. "L'idiot," says M. Baillarger, "est un être dont l'arrêt de developpement porte sur l'encephale, tandis que chez le cretin, il y a un arret gênêral, tant du developpement du cerveau que de l'ensemble de l'organisme." M. Niepce also says, "L'idiot est un être bien conformé, tandis que le cretin presente la degradation des organes." The size of the feet is not in proportion to that of the trunk, while the prominent abdomen resting upon two lank attenuated legs, and the head, which is sometimes cumbrously large, drooping over an ill-developed thorax, exhibit humanity in its most distorted form.

Into the causes of cretinism, we do not propose to enter; the conclusion, however, at which the Commission arrived, was that, notwithstanding many exceptions, the most general and constant cause is a humid or vitiated atmosphere, whether in consequence of the character and situation of the country, or the position and aspect of the dwellings, and the defective construction of badly ventilated and dirty houses; or the want of sunlight; to which must be added the bad quality of the water, and the excess or deficiency of some of its constituents, the bad quality of the food, and its insufficiency for the wants of life. The conclusion at which Dr. Behrend, a German writer, arrived, after a careful examination of the etiology of cretinism, was essentially the same. Sir John Forbes, to whose graphic sketch of what he saw and heard of cretinism during his "Holiday" we would refer the reader, observes: "My present impression is, that its cause is some form of that unknown local influence or thing, commonly recognized under the name of *miasma* or *malaria*, and which operates on the animal system as a poison, producing special modifications of function, and special changes of structure, according

to certain special conditions, which, however, are, like itself, unknown. As the unknown thing which we term malaria or miasma of marshes, under certain circumstances give rise, at one time, to simple ague; at another, to a fatal remittent fever, &c., and produces, at times, a morbid enlargement of the spleen; at others, diseases of the liver, &c.; so I can imagine, that some other *malaria* or unknown thing or influence, of local origin, may be the cause of ordinary bronchocele, of the aggravated bronchocele or goître of the Alps, and also of cretinism." Dr. Grange and Dr. Chatin have endeavored to show, that there exists an important relation between the deficiency of iodine in the atmosphere, food, soil, and water, and the development of cretinism. But, more extensive researches appear to be required, before this proposition can be admitted.

We must acknowledge and act upon the existence of those obvious causes which sin against hygiene, and which must be removed before we can hope either to prevent or cure cretinism. Sir John Forbes states that, among similar instances mentioned to him, a surgeon at Bonneville, in Savoy, pointed out to him a village near that town, in a gorge of the mountain-range that bounds the Arve on the south, as the only place where cretinism prevailed in that district; and that he knew a family who had had several healthy children while residing in a more elevated spot, and who, on coming to reside in this village, gave birth to several cretins. "Heroic doctors," he observes, "in ignorance of the way in which alone Nature works, may attempt to cure a chronic disease by a *coup de main;* and, by mistaking temporary relief for real cure, may themselves suppose, or be supposed by others to have done so; but every physiological physician knows well, that a morbid condition, which may have been months or years in forming, can only be effectually and permanently removed by means which act slowly and for a length of time, not on one part only, but more or less on the whole system. And so it is, and still more certainly, in the cases now under consideration, in the cure or amelioration of which, nothing is to be neglected that can help to waken up the dormant faculties, in that gentle and imperceptible, but uninterrupted mode in which Nature produces all her great and permanent changes in the organic world of life, and in the psychical, no less than in the mere physical portion of her domains."

In regard to the pathology of cretinism, some (including Rosch), regard it as the most complete development of scrofula; others (with Ackermann), maintain it is an extreme degree of rachitis; while

Foderé and others consider that the proximate cause of the malady is hardness of the brain, and a defect in its structure. Dr. Behrend defines cretinism to be "a scrofulous, rachitic dyscrasia, accompanied by chlorosis and imperfection of the intelligence and senses." Dr. Brierre de Boismont, with more candor, acknowledges that we possess no definite knowledge on the subject. At the same time, we cannot doubt the immediate cause of the symptoms we witness, both in idiocy and in cretinism, is a defect in the quantity, or, when this is not the case, in the *quality* of the nervous matter of the encephalon. Further observations on the chemical constituents of the brain in idiots, such as have been made in regard to the less amount of phosphorus, &c., may advance our knowledge. Meckel observes, that in idiots the cerebral substance is drier, lighter, and more friable than in healthy brains. Malacarne declares, that the lamellæ of the cerebellum are less numerous in those deprived of intelligence. The convolutions of the cerebrum are not, remarks Solly, exactly alike on both sides in healthy brains; while, "curiously enough, we find them almost in exact correspondence in the brain of the monkey and *the idiot*, and even in some of the lowest of the negroes."[1]

Having now described the phenomena of Idiocy and Cretinism, it is necessary to say a few words in regard to the meaning attached to the term *Imbecility*. Some writers have restricted its use to the loss of mental power supervening in infancy, others have applied it indifferently to a congenital and infantile condition, and all agree in employing the term to denote a minor degree of mental deficiency than idiocy. Probably, the best way to define the difference between idiocy and imbecility is this: idiocy always is, imbecility is not necessarily, congenital; idiocy implies a less amount of intellectual power than imbecility. At the same time, it is obvious that it is possible to have such an abolition of the intellectual faculties in a child congenitally of sound mind, that, in regard to the mental condition, it is rather idiotic than imbecile, and yet, in regard to the period of the invasion of the malady, it is not idiotic, in the sense applied to the word in the previous definition, and as laid down by Esquirol.

When imbecility is present from birth, the sensitive and intellectual faculties are somewhat developed; sensations, ideas, and memory, as well as the affections, passions, and even inclinations, exist, but

[1] "The Human Brain," 2d Edition, p. 180.

only in a slight degree; such think, feel, and speak, and are capable of acquiring a certain amount of education. (Esquirol.)

Georget speaks of imbeciles as those who "are conscious of sensations, have memory, can judge of the simple acts of life, can work at rough employments which require little discernment; they employ, in order to express themselves, a language composed of those expressions which are most essential to their ordinary wants."[1]

Imbecility, like idiocy, is manifested in various degrees. In the lower forms, "imbeciles produce nothing; and all their movements, both intellectual and moral, are aroused only by impulses from without. They do not think or act, except through others; their will is without energy. They will and do not. They cannot follow a conversation, still less a discussion. They regard as serious, things the most gay; and laugh at those that are most sad. Does something interest them, their eyes are fixed, but they do not see; they hear, but do not comprehend; although they affect to have both seen and understood. They reply correctly, but you must not ask them too many questions, nor require from them responses which demand reflection, or are contrary to their habits."[2]

Other imbeciles know those who are about them, are affectionate to their friends, but are often passionate, and are very likely to have a strong tendency to theft. They are equal to the performance of many of the ordinary duties of life, and are able to take care of themselves.

Others display considerable shrewdness, and are constantly indulging in jokes; they pass for half-witted people, whose droll behavior and ready repartees create amusement. From this class, the court-fools of antiquity and mediæval times were derived. Unfortunately, there are not a few imbeciles who are dangerous to society: they are sometimes prone to incendiary, and still more frequently to homicidal acts. This is the case even with true idiots; proving, in both cases, how completely distinct must be the structures which subserve the intellectual and the affective faculties; there being in the same person, and at the same time, an absence or depression of the former, or an excess or exaltation of the latter. We think Gall and his followers are quite justified in urging these facts in favor of a plurality of cerebral organs. He relates the case of an idiot who, after killing two of his brother's children, went to the father with an expression of delight and told him what he had done. Again, instances

[1] De la Folie, p. 104. [2] Esquirol, op. cit. p. 452.

are given by Esquirol and others, of the presence of considerable moral sensibility, in association with intellectual deficiency. This, however, is of much rarer occurrence than the absence of intellectual power coincidently with the excessive action of the animal propensities.

Hoffbauer has divided mental weakness into various classes, according to the extent to which the mental faculties are impaired. Three of these, as having special reference to imbecility, may be referred to. In the *first*, the individual is incapable of forming a judgment on a new subject, however simple it may be. He can judge very well, however, regarding subjects which are familiar to him; his memory is, of course, very weak, although he observes a certain routine of occupation with scrupulous exactness. He is not accustomed to talk much to himself. He is liable to sudden paroxysms of anger.

The subject of the *second* degree is even less able to judge and act, in regard to his accustomed occupations. He is exceedingly confused in regard to the place in which he is, and the person with whom he converses, and is very generally at fault in regard to his ideas of time.

In the *third* degree of imbecility, there is more reason to apprehend danger from the individual affected with it; for he has delusions of the evil intentions of others, and is not only passionate, but suspicious and misanthropic. He frequently talks to himself.

Dr. Prichard inclines to the use of similar divisions, and of others still more refined, to assist the judicial questions which arise in connection with imbecility. We think, however, that a more detailed division than that to which we have referred, would only confuse the reader by its minute distinctions.

Herr Sægert, of Berlin, is the most sanguine instructor of idiots we have met with, in regard to the recovery of mental power in even the low forms of idiocy. He assured us, when we visited his school, that he had had indubitable cases of idiocy in which the head was small and malformed, yet in which the results of education were so triumphant, that they were ultimately able to mix with the world, without being recognized as idiots. In one instance, a young man underwent confirmation without the priest suspecting that he had been delivered from idiocy. Herr Sægert has representations of the heads of idiots when entering, as well as when leaving his school, and the increase of cerebral development is most striking.

Dr. Maxwell has obligingly furnished us with the following general

result of the care bestowed on the idiots under his charge. He says: "As to the cases we have in the asylum (Red Hill), I think I may say that they *all* have improved more or less. Kind treatment, good diet, and attention, will improve the most hopeless cases.

"Many that come in dirty, irritable, &c., not only become cleanly, but get to speak intelligently, to dress themselves properly, and make themselves useful. Other cases will do a great deal in the school; for instance, we have a case which came in spiteful, obstinate, and unable to read and write. Now he reads well, writes well, also writes from dictation, draws very nicely, can sing several songs, plays on the harmonicum, and can drill, which has made him walk upright. He is latterly been in the mat-making shop, and can make the best part of a mat. Another boy has *improved* in all the above, and is learning mat-making. He possesses, perhaps, the most intellect of any of the boys; but I cannot say that I think he will ever be like an ordinary person. The cases most favorable are those between seven and twelve, which are healthy, can speak, and are free from fits and paralysis."

In a pamphlet entitled *Teaching the Idiot*, it is stated that the father and mother of an idiot called at Essex Hall to visit him, and were shown into the room where he was engaged in company with several others of the same class. "They both said he was not there, after what they regarded as a sufficient scrutiny; and, when they discovered him, the father could only utter, in a voice choked with emotion: 'My heart is full, I cannot tell you what I feel!' He saw his son rescued from the dreadful slough of brutishness, made tidy, decent, industrious, and happy; and no wonder he was thus affected by the spectacle."

Dr. Guggenbuhl thus speaks of the result of his treatment of cretins: "Since the publication of my last report of the pupils who have left, the greater part have mastered elementary instruction, and their physical powers have sufficiently developed to enable them to take situations. The worst cases have been ameliorated, and none have died. We have now some who write animated letters to their parents, and who exhibit a remarkable acquaintance with geography and natural history, &c. I am more and more convinced, that the study of natural phenomena furnishes the most powerful means of rousing the dormant faculties, for every day presents a fresh variety of these phenomena in our beautiful locality, and affords a ceaseless renewal of excitement to the mind."

Section II.—*Of Dementia.*

Having disposed of Idiocy, Cretinism, and Imbecility, we will now pass on to the consideration of Dementia.

In contemplating a group of demented persons, it is curious to reflect on the various courses by which they have arrived at the same deplorable condition. Were we to retrace their mental history, we should find that some, a few years ago, afforded examples of melancholia, and were perfectly conscious of all that passed around them. By slow gradations, the mental faculties became dulled, confused, and finally obliterated.

Some were maniacs, the very intensity of whose mental operations appears to have exhausted their supply of cerebral power; and a too rapid succession of images, which ought to have been spread over a lifetime, has been compressed within the narrow limits of a few months. The very brilliancy of the flame has caused its premature extinction; the oil which should have sustained the lustre of an entire life, has been lavishly consumed in the production of one splendid but useless conflagration. The ashes in the socket alone remain.

Others, again, have lost their faculties by reason of old age, and are illustrations of senile dementia—"the last infirmity of noble minds."

Some, without any previous stage of mental disease, have suddenly, and it may be by some overpowering shock to the nervous system, become subjects of dementia.

But all, whatever may have been the original cause, are now indiscriminately consigned to one common doom.

Dementia was thus described by Pinel: "Rapid succession or uninterrupted alternation of insulated ideas, and evanescent and unconnected emotions; continually repeated acts of extravagance; complete forgetfulness of every previous state; diminished sensibility to external impressions; abolition of the faculty of judgment; perpetual activity."

"Dementia," observes Esquirol, "must not be confounded with imbecility or idiocy. In imbecility, neither the understanding nor sensibility has been sufficiently developed. He who is in a state of dementia, has lost these faculties to a very considerable degree. The former can neither look backward nor into the future; the latter has

recollections and reminiscences. Imbeciles are remarkable by their conversation and acts, which greatly resemble infancy. The conversation and manners of the insensate, bear the impress of their former state. Idiots and cretins have never possessed either memory or judgment; scarcely do they present the features of animal instinct, and their external conformation indicates, plainly enough, that they are not organized for thought. There exists, therefore, a form of mental alienation which is very distinct—in which the disorder of the ideas, affections, and determinations, is characterized by feebleness, and by the abolition, more or less marked, of all the sensitive, intellectual, and voluntary faculties. This is *dementia.*"

Some of the symptoms of dementia, contained in Pinel's definition, would appear to belong rather to mania; indeed, these two conditions are often intimately connected together; and it very frequently happens that patients in dementia are subject, on the slightest excitement, to maniacal outbursts; and, on the other hand, patients in acute mania are, in consequence of the rapid flow or succession of ideas, perfectly incoherent; and a stranger to the history of the case might be unable to decide whether the patient were demented and excited, or maniacal and temporarily incoherent. "We have found ourselves," says a modern writer, "often embarrassed in arriving at a conclusion as to the nature of such cases; we have, in consequence, been obliged to submit the patient to a more prolonged examination before giving an opinion. It is a good plan to attempt to make them write; if they do, we then see that they [the former] have forgotten their words and letters."

"In many acute diseases," observes Guislain, "there is an *oppression*, and not an *extinction*, of mental power. This remark is especially applicable to acute melancholy and acute mania, disorders in which the intelligence appears to be covered with a veil." Pinel thus distinguishes dementia from mania: "In *mania* there are important lesions of the power of perception, imagination, and memory; but the faculty of judgment and the association of ideas remain. In *dementia* there is no judgment, either true or false."

A considerable proportion of the patients in asylums for the insane afford, unfortunately, examples of dementia in its various stages, from its slightest and most incipient form, to that in which the patient has no longer any just perception of the objects around him; can no longer reason; has completely lost the comparing faculty, and has left to him little more than the functions of vege-

table and animal life. "Indifferent to everything, nothing affects the demented. They sport and play when others are in affliction. They shed tears and utter complaints when every one else is happy, and when they ought to be so themselves. If their position is unpleasant, they do nothing to change it. The brain being in a state of atony, and no longer furnishing sensations for the production of ideas upon which to reason, nor data upon which to form a judgment, the determinations are vague, uncertain, variable, without aim, and passionless. Those who are in a state of dementia, are destitute of spontaneity. They no longer determine, but abandon themselves—yielding implicitly to the will of others."[1]

The outward signs of dementia may, when long continued, be well pronounced in the countenance. It very often happens, however, that when at rest, an observer would fail to discover, in the facial expression, the mental condition of the patient; but, on asking him a question, his true state becomes at once apparent. The vacant and puzzled look, the lack-lustre eye, the weak smile, or meaningless laugh, betray the patient's dementia. His physiognomy, being the fixed expression and impress of his former sane mind, may remain unaltered; but his pathognomy, being the involuntary reflex of his actual psychical condition when called into action, exhibits all its deficiency and all its degradation—

> "And the inglorious likeness of a beast
> Fixes instead, unmoulding reason's mintage,
> Charactered in the face."—*Milton.*

In this, dementia differs from those forms of mental deficiency which have originated in a congenital or infantile condition,—idiocy and imbecility,—and in which there is an unvarying accordance between the physiognomy and psychical power. In dementia, on the contrary, although occasionally, indeed, not one stone is left standing upon another of the once glorious temple of thought, we may frequently trace in the yet undistorted facial lineaments, many vestiges which bear witness to the patient's original mind.

Esquirol notes among the physical symptoms of dementia, "a pale face, the eyes dull and moistened with tears, the pupils dilated; . . . the body now emaciated and slender, and now loaded with flesh; the face full, the conjunctivæ injected, and the neck short." This de-

[1] "Maladies Mentales" (Hunt's Edition), p. 418.

scription, however, must be taken in a very general sense, and is open to many exceptions. Incurable dementia is often but too surely indicated by the inclination of the head forwards. Apart from cases of paralysis, there is a general relaxation of the muscular system, often manifested in the walk, and not unfrequently the cause of the crouching attitude patients in dementia assume. So justly has muscular power been termed the *pulse* of mental affections.

The physical health of patients thus affected is, in general, as Dr. Prichard remarks, tolerably good; they are often fat, have good appetites, digest their food, sleep well; and if in the previous stages of the disease they had been emaciated, they often recover their natural degree of plumpness on the approach of dementia. Consequently, the return of bodily health, unaccompanied by mental improvement, augurs badly for patients suffering from mania or melancholy.

Dementia, or incoherence, may be divided into several stages. The following are those adopted by Dr. Prichard:[1]

The first may be termed that of *forgetfulness*, or *loss of memory*. Its chief characteristic is a failure of memory, especially as to recent events. The power of reasoning, within the sphere of distinct recollection, is not remarkably impaired, and the faculty of judgment is exercised in a sound manner.

The second stage brings with it a total abolition of the power of reasoning, depending on a loss of voluntary control over the thoughts. It may be termed a stage of *irrationality*, or *loss of reasoning*.

In the third stage, the individual affected is incapable of comprehending the meaning of anything that may be said to him. It may be styled the stage of *incomprehension*. It is the confirmed stage of incoherence; that epithet applying to it, in a still more striking manner, than to any other degree of the disease. It might also be termed the instinctive stage. Reason being entirely lost, and the instinctive or mechanical principles of action, as they are termed, still remaining in vigor, the latter display themselves more remarkably.

The fourth and last stage is characterized by loss of instinctive voluntary actions. Even the animal instincts are lost. The miserable victim of disease, when reduced to this state, has merely organic or physical existence; he appears scarcely conscious of life, has neither desires nor aversions, and is unable to obey the calls of nature. This is the stage of *inappetency*, or *loss of instinct and volition*.

[1] "Treatise on Insanity," pp. 88, 89, et seq.

Dementia may be either primary or consecutive; acute or chronic. It may also be simple or complicated; it is occasionally remittent, but rarely intermittent.

It is *primary* when it is the first stage of the mental disease of the patient; and when this occurs, it is, perhaps, one of the most painful forms of insanity; the patient often being acutely sensible of a gradual loss of memory, power of attention, and executive ability. At this period, the distinction is often well marked between the strictly intellectual and affective disorder; since, in association with the preceding deficiencies, the affections of the patient are remarkably warm, and his moral sense unimpaired. As generally presented to our notice, however, dementia extends far beyond the former class of mental disorders—those, namely, involving the intellectual faculties—and involves in the mental ruin the moral feelings, to a greater or less extent, also.

Moral alienation is, indeed, so constant a feature when the patient comes under care, that Esquirol regarded it as the proper characteristic of mental derangement. "There are madmen," says he, "in whom it is difficult to discover any trace of hallucination, but there are none in whom the passions and moral affections are not disordered, perverted, or destroyed. I have, in this particular, met with no exceptions." On the other hand, it is sometimes remarkable to witness the slight degree in which the affections have been weakened by an attack of insanity, surviving, in fact, an injured intelligence, in accordance with the remark of Pinel, that he had nowhere met, except in romances, with fonder husbands, more affectionate parents, more impassioned lovers, more pure and exalted patriots, than in his intercourse with the insane.

Dementia is much more frequently *consecutive;* that is, the consequence of other diseases of the mind. Thus, during 44 years, while 277 cases of mania and 215 of melancholia were admitted at the Retreat, only 48 of dementia were admitted during the same period; yet, at the end of that term, there were remaining in the institution, 20 patients in a state of dementia out of 91 inmates.

Mania very often degenerates into dementia; as also do melancholia and monomania. Esquirol states, that of 235 patients in dementia, he found that there were 33 who had been maniacs, or monomaniacs; the proportion is, probably, in general much greater than this, especially if cases of senile dementia were excluded. Again, the mortality in asylums is chiefly among the demented. Thus,

during forty-four years at the Retreat, the proportion of deaths per cent. of the admissions was—in dementia, 43·75; while, in monomania, it was 28·12; and, in mania, 18·79. And at Charenton, of 221 patients who died, 115 were demented, 60 labored under mania, and 43 under monomania; results to be expected, not only from the constant tendency of mania, and other forms of mental derangement, to pass into dementia, but from the large number of cases in which dementia is associated with general paralysis. This remark, while applying to the statistics of Charenton, does not apply to those of the Retreat, in which general paralysis is a rare disease.

It should here be observed, that the term dementia may be, and sometimes is, too indiscriminately employed. All writers of authority agree in representing an impairment of the memory as one of the earliest symptoms of dementia; but, we believe, cases are occasionally classed under incipient dementia, in which close observation would show that the memory is unimpaired, both as regards circumstances long passed, as well as those of recent occurrence. It is often rather a torpid condition of the mind, falling under the division "apathetic insanity," which ought not to be confounded with dementia, and in which the prognosis differs so much, that if recovery take place, a very false inference would be drawn, in regard to the curability of genuine dementia.

There is another condition of mind closely allied to dementia, in so far as there is a suspension of mental power, but differing widely in other particulars. In the "ecstasy" of Guislain, the patient sits as immovable as a statue, is scarcely sensible of pain, and does not reply to the questions addressed him. The intellectual powers are suspended. Although there is considerable tension of the muscles, there is not a genuine cataleptic condition present; the symptoms persist,—not as in catalepsy, leaving the patient for a time in his usual condition, and then recurring.

The *acute* form of dementia is very rare. M. Brierre mentions a case in which the incoherence was complete; the patient did not speak two rational words in succession; she resembled, in fact, a person in second childhood. Fifteen days after her admission, her conversation began to exhibit some degree of sense; every day some improvement took place, and she went out at the end of a month, perfectly cured, dying three years afterwards, without having had any relapse. When M. Brierre first saw this patient, he pronounced her to be incurable. Another example was afforded by a woman who was in a

most confused condition of mind, and talked very incoherently; loss of memory was marked; she forgot when she had just had a meal, and would say that she had had a long walk, although she had not left her bed. Warned by the previous case, M. Brierre observed to the patient's medical attendant: "If this were the first case, I should declare it incurable; but the rapid course of the symptoms, the analogy which I observe between this patient and another I have seen, makes me hesitate, and I shall not be surprised if this patient recover." In one month, she was entirely restored to reason.

Esquirol gives, as an illustration of this form, the following case only. The patient, when twenty years of age, had, for three months, violent pain in the head. She suffered from insomnia for four days, and afterwards from delirium. She was brought to the Salpêtrière in a state of mania, which lasted for nearly two months. The patient then sunk into a state of complete dementia. She appeared insensible to everything that was passing around her; did not change her place; never spoke, not even in reply to questions addressed to her. This state continued for two months, when Esquirol applied the actual cautery to the neck; this provoked a general irritation and a maniacal delirium, which lasted for several days. A month afterwards, the menses reappeared. The patient became convalescent, and her tastes and habits of thought such as they were previous to her illness.[1]

The condition of mind now spoken of as "acute dementia," is the same as that which Georget describes as *stupidité*. This writer, Ferrus, and Belhomme, regard it as a distinct form of mental disorder, while M. Etoc Demazy and others, consider it as an accident of insanity or any other disease. Foville defines it as a rapid abolition of the intellectual, moral, and instinctive faculties, but curable. M. Baillarger has clearly shown that, in a large number of these cases, there is a state of profound melancholy, and that the patient, on his recovery, is able to refer his torpor and apparent dementia to some all-absorbing painful delusion, with which he was impressed. This writer, therefore, regards what has been designated acute dementia, or stupidité, as an extreme degree of one form of melancholia, to which we shall have occasion to refer when we treat of that disorder of the mental faculties, and which he terms *melancolie avec stupeur*.

We think that the term acute dementia, may very properly include

[1] Op. cit. p. 434.

two somewhat different conditions of mind. We believe that, after making the deduction required by M. Baillarger's just observations, cases remain like those reported by Esquirol and M. Brierre. But, we believe there are cases not apparently comprised by Esquirol and other writers, under the term acute dementia, which, however, properly belong to it. We refer to those which are not necessarily marked by decided loss of sensibility, or by that prostrate—almost speechless—condition, which the last-mentioned writers note as present in the instances observed by them. There is, however, for a certain period—it may be only a few weeks—a state which scarcely differs in anything from the ordinary forms of dementia, except in the fact of its terminating in recovery, and this in a comparatively short period of time. We have recently seen a lady pass from a condition marked by emotional disturbance, to one of complete incoherence, loss of memory, inability to recognize those around her, accompanied by a completely demented physiognomy. The characters of genuine dementia were present, and a return of coherence appeared highly improbable; yet, within four or five weeks, the conversation became rational, and her expression of countenance the same as previously.

When dementia becomes *chronic*, the general description which has already been given of the disease, more especially applies, and then the prognosis must ever be most unfavorable.

Fever, and acute maniacal paroxysms have, however, occasionally been the means of restoring to reason, patients apparently sunk in hopeless dementia. Of the effects of the former, several instances are on record. To the influence of the latter, Pinel himself bears witness. "Many, especially young persons, after having remained several months or years in a state of absolute dementia, are attacked by a paroxysm of acute mania, of twenty, twenty-five, or thirty days' continuance. Such paroxysms, apparently from a reaction of the system, are, in many instances, succeeded by perfect rationality." He relates the case of a man in whom dementia had been induced by over depletion, and "all the functions of the understanding obliterated." Prior to recovery, "his countenance was flushed, his eyes wild and prominent, attended by febrile excitement, extreme agitation, and at length complete delirium. Thus raised to maniacal consequence, our hero sallied forth, and provoked and insulted every person he met with as he went along. He continued for twenty days in a state of delirious excitement, when a calm succeeded, and the

dawn of reason faintly glimmered above the tempest. Moderate employment and regular exercise, co-operating with the energies of Nature herself, restored him, in a short time, to the full enjoyment of his intellectual faculties."

Senile dementia may be regarded as another variety; although, when established, it differs little in its symptoms from the chronic form.

Pinel gives several remarkable examples of sudden joy and sudden grief, producing dementia. "An engineer proposed to the Committee of Public Safety, in the second year of the Republic, a project for a newly invented cannon. A day was fixed for the experiment, and Robespierre wrote to the inventor so flattering a letter, that, upon perusing it, he was transfixed motionless to the spot. He was shortly after sent to the Bicêtre, in a state of complete dementia. About the same time, two young conscripts who had recently joined the army, were called into action. In the heat of the engagement, one of them was killed by a musket-ball, at the side of his brother. The survivor, petrified with horror, was struck motionless at the sight. Some days afterwards, he was sent, in a state of complete dementia, to his father's house. His arrival produced a similar impression upon a third son of the same family. My sympathy," adds Pinel, "has been frequently arrested by the sad wreck of humanity presented in the appearance of these degraded beings; but it was a scene truly heart-rending, to see the wretched father come to weep over these miserable remains of his once enviable family."

In regard to the causes of senile dementia, "it is," observes Prichard, "a condition to which old age may be said to have a tendency, and to which, in the last stage of bodily decay, some approximations are readily to be perceived. The change which time alone will, perhaps, sooner or later, bring on in those who long survive the allotted duration of man's days, may be accelerated by a variety of circumstances. Among these, is a life of too much activity and excitement, of mental exertion beyond what the constitutional strength of the individual is capable of supporting without constant effort; excessive anxiety and eagerness in the pursuit of business, or intense and unremitted application to studies of whatever kind. A second cause is the too liberal use of vinous or other alcoholic liquors. The same affection has been observed frequently to make its appearance in men long engaged in active pursuits, soon after they have relinquished their business or professions, and have laid themselves by to enjoy

ease and leisure for the remainder of their days. The disease often appears in a more marked and sudden manner in elderly persons, who have sustained a slight attack of apoplexy or paralysis, which has, perhaps, been speedily recovered, and might be expected to have left but slight traces of disease. That expectation is verified, so far as the sensitive and motive powers are concerned, but the seat of intellect is found to have been shaken to its very centre."

Chemical analysis of the brain, in old age, shows that it approaches nearer to the composition of that of the idiot, in regard to three most important constituents—namely, phosphorus, fat, and albumen; all of which exist in less quantities in the old and in idiots, than they do in the healthy adult.[1]

Section III.—*Of Delusional Insanity.*

From dementia, which, with idiocy, cretinism, and imbecility, belong to deficient or depressed conditions of our intellectual constitution, we pass to monomania and delusional insanity, which, for the most part, exemplify undue intensity and exaltation of the conceptive and perceptive faculties.

Monomania, or partial insanity, is characterized by some particular illusion or erroneous conviction impressed upon the understanding, and giving rise to a partial aberration of judgment: the individual affected is rendered incapable of thinking correctly on subjects connected with the particular illusion; while in other respects he betrays no palpable disorder of the mind.—(Prichard.)

This definition sufficiently describes *intellectual* monomania, with which, alone, we are now concerned. There is, however, also an *affective* monomania; and a mania without delirium, or *instinctive* monomania; these will demand our attention subsequently.

Dr. Falret has been represented as denying the existence of monomania; but, although he objects to the term, and inclines to the idea of the mutual dependence, or *solidarité* of the mental faculties, he appears virtually to admit the condition of mind indicated by it, under the head of "partial expansive insanity." Moreau ignores monomania altogether; and observes, that we are mad or we are not mad; we cannot be half deranged, or three-quarters; full face or profile. Baillarger, in attempting to show that this writer confounds

[1] *Vide* "L'Heretier's Traité de Chim. path." p. 596.

two distinct things,—our mental faculties, and the power which governs them,—makes the following observation: "If we should discover, for instance, that hysteria and epilepsy only arise after some disorders identical in their dynamic nature, must we, on that account, confound the two diseases? Assuredly not; for the symptomatic manifestations are so different, that there are evidently other conditions more than sufficient to maintain the distinction between the two. We have seen how decided are the differences between mania, monomania, and melancholy; and even if all should originate in a state of brain perfectly identical, it would constitute an *analogy* among them, but would by no means obliterate the essential differences in character which separate them. In conclusion, I believe that the differences among us are chiefly verbal, and that essentially, and in matters of fact, we are very nearly agreed." There is much force in these remarks.

The term was first employed by Esquirol. Previously, the word melancholia was made use of; the employment of which was objected to by that writer, on the ground that partial insanity is not necessarily melancholic. Dr. Prichard makes an observation to the effect that had the classic sense of the word, melancholia, not been lost, its adoption to signify pleasurable as well as gloomy, partial insanity would not have appeared paradoxical, for ancient writers attached no idea of despondency, but only madness to the term. This, however, is scarcely correct; for although, no doubt, the Greeks employed the word somewhat loosely, they did certainly attach the idea of gloom to it, when strictly defining it. Hippocrates, in one of his aphorisms, says, "If fear or distress continue for a long time, this is a symptom of melancholy."[1] And, in other places, he distinguishes melancholy from mania, by the absence of violence. At other times, however, he applies the word to madness in general.

Modern writers, before Esquirol, used the word melancholy to convey the idea of derangement on some particular point, whether accompanied by gloom or mirth. Thus Cullen included, under melancholy, "hallucinations about the *prosperous*," as well as "the dangerous condition of the body." Dr. Good speaks of "a *self-complacent* melancholy," and defines melancholia as an alienation confined to a few objects or trains of ideas, quite irrespective of their depressed or exalted character. It was for melancholy, used in this sense, that Esquirol introduced the word monomania, restricting the term *lypemania* to the state popularly understood as melancholia. "In lype-

[1] Ην φόβος ἢ δυσθυμίη πολὺν χρόνον διατελέῃ, μελαγχολικὸν τὸ τοιουτον.

mania," he observes, "the sensibility is painfully excited or disturbed; the sorrowful and depressing passions modify the intelligence and the will. The lypemaniac fastens upon himself all his thoughts—all his affections; is egotistical, and lives *within* himself. In monomania, on the contrary, the sensibility is agreeably excited; the gay and expansive passions react upon the understanding and the will. The monomaniac lives *without* himself, and diffuses among others the excess of his emotions."[1] In illustration of the former, this writer refers to the case of the woman who did not dare to bend her thumb, lest the world should come to an end; and to that of the man who imagined the earth covered with a shell of glass, under which were serpents, and did not dare to walk for fear of breaking the glass and being devoured by them. Under monomania proper, he introduces those cases in which patients believe themselves to be illustrious personages, as sovereigns, &c. Monomanias, therefore, by Esquirol and the French writers who have followed him, are divided into those of a pleasurable kind (*amenomania*) and those of a gloomy character (*lypemania* or *melancholia*). To them, in their relation to the emotions, we shall have to recur when we come to treat of these forms of mental disease. "In our opinion," observes M. Baillarger, "the word monomania best designates all the cases of partial delirium with a dominant series of ideas, whatever may be the accessory phenomena, the number or variety of false secondary ideas." "A fixed idea, in fact, like the delirium of mania, like hallucinations, the result of the involuntary exercise of the faculties, overcomes the will, in consequence of a diseased condition of the brain." "Monomania is specially indicated by delusions."

To the consideration of delusions in general, we must now direct our attention, as naturally arising out of the consideration of monomania, of which they often form such striking illustrations.

There are several terms made use of by psychologists, of which it is necessary to have a clear understanding, but regarding which, unfortunately, great confusion exists among writers on insanity. We refer to the terms, hallucination, illusion, and delusion. The words themselves do not convey to the mind the sense in which they are employed. If we consult Johnson, we find, under *hallucination*, the following definition: "error, blunder, mistake, folly;" while *illusion* is defined to be, "mockery, false show, counterfeit appearance, error;" and *delusion*, "a false representation, illusion, error, a chimerical

[1] Op. cit. p. 320.

thought." From these definitions, which are certainly not remarkable for their discrimination, we may, however, infer, that the lexicographer recognized the distinction between the first and the other two words, to consist in the former being simply a state of passive error, while the latter implied the causing others to err. This is consistent with the sense attached by Latin writers to the verbs from which they are derived.

Cicero says:

"Quæ Epicurus oscitans *alucinatus* est."

And Virgil:

"Circumfusa ruit, certantque *illudere* capto." And the same writer, in another place, says:

"Aut quæ sopitos *deludunt* somnia sensus."

Hallucinor, or allucinor (more correctly *al*), is derived, by Dr. William Smith, from *αλυω*, *αλυσκω*, and is thus rendered in his dictionary, "to wander in mind, to mistake," &c., while *illudo* is "to play upon, to ridicule;" and *deludo*, "to play false with, to mock, to delude."

Hence, *illudo* and *deludo* are, classically, synonymous, and differ from *hallucinor* in signifying to deceive, or to illude. When there is deceiving, an agent that deceives is implied; and it has probably been in this way that the meaning respectively attached to the words illusion and hallucination, about to be mentioned, has originated.

Arnold recognizes important distinctions, in regard to errors of the senses and the understanding, when he says, in speaking of ideal insanity, it is that state of mind "in which a person imagines he sees, hears, or otherwise perceives or converses with persons or things, which either (1), have no external existence to his senses at that time; or (2), have no such external existence as they are then conceived to have; or (3), if he perceives external objects as they really exist, has yet erroneous and absurd ideas of his own form, and other sensible qualities;" and he distinguishes all these from (4), "that state of mind in which a person sees, hears, or otherwise perceives external objects as they really exist as objects of sense, yet conceives such notions of the powers, properties, state, &c., of things and persons, of himself and others, as appear obviously and often grossly erroneous, or unreasonable, to the common sense of the sober and judicious part of mankind." Now, the only difference between the third and fourth division is, that, in the former, a man has a false notion about the *form*, and, in the latter, about the *properties* of some per-

son or thing, in spite of their appearing to his senses as they really are. They agree in their involving no false sensation, and although we speak of *form*, no false image whatever is present to the mind.

To these several conditions, Arnold did not assign the particular terms we are now discussing; but it will be found, that his first division answers to the scientific use of the word *hallucination;* the second division—and, by some writers, the second *and* third—to that of *illusion;* and the third and fourth divisions, to those false notions which do not, strictly speaking, involve sensation. And, while the word delusion may be employed, in a general sense, to comprise all these divisions, the phrase *delusion proper* would naturally imply any error which is neither an illusion nor a hallucination.

The word delusion is generally used by English writers, to include all the various errors to which reference has been made, whenever those errors are not corrected by the understanding. "As long as the judgment," observes Dr. Winslow, "retains the power of correcting the false impressions made through the sensuous organs upon the brain, the notices thus conveyed to the mind cannot, in scientific phraseology, be called either illusions, delusions, or hallucinations; but they become so when they are extravagant and unreasonable in their character, and the judgment ceases to operate in rectifying the false ideas, and the conduct of the individual is evidently influenced by them. This we feel assured to be the only safe principle to guide us in the use of these important medical terms, particularly when giving evidence in courts of judicature. . . . In a court of justice, the terms illusion and delusion should always be used synonymously; and the greatest caution should be exercised not to mislead and confuse the jury by the use of pedantic phraseology; or by attempting to draw, while in the witness-box, precise psychological distinctions between words conveying a recognized popular signification." We are disposed to think this recommendation is just, especially as cases will frequently occur in which considerable doubt would be felt, and a difference of opinion exist, as to which term ought to be employed. This, however, need not prevent us clearly recognizing the scientific distinctions which have been pointed out, and which, in psychological literature, may with great advantage be admitted.

A man, then, may be laboring under an error in three principal ways:

An object may appear to be present before his eyes (to take, in illustration, the sense of sight) which has no existence whatever

there: he experiences sensations, although no material objects act upon the senses at the time. (Hallucination.) If unable to correct or recognize them, when an appeal is made to reason, he is also insane.

Secondly, an object may appear to his eyes in an entirely different form to that which it actually has. Here the sensations are produced by the false perception of objects. (Illusion.) If unable to correct or recognize them, when an appeal is made to reason, he is also insane.

Lastly, a person may (independently of *false inductions*) have certain false notions and ideas, which have no immediate reference to the senses, as in the two preceding instances; as, for example, when he believes himself or some other person to be a king or a prophet; or that there is a conspiracy against his life; or that he has lost his soul. Or, as another example, he may believe himself to be a tea-pot, without seeing or otherwise perceiving any change in his form.

In all examples under this last head, a man is necessarily insane. He cannot have a false belief (not simply a false induction, but) the result of disease, and unconnected with the senses, without the mind itself being unsound.

When there is no morbid perception, but only a false conception, the French employ the expressions, "conceptions fausses," "conceptions delirantes," and "convictions delirantes."

Instances, however, will occur, as has been already intimated, in which a difference of opinion will exist as to the class to which they ought to be referred. In the example referred to of a man believing himself or any one else to be a tea-pot, Brierre de Boismont would say that he was laboring under an illusion; but such a case would appear to us more properly referrible to the third class, that of false notions or conceptions.[1] There is no false sensation; unless, indeed, we follow Condillac, who regarded imagination itself as only a mode of sensation, and held that "sensation embraces in itself all the faculties of the soul." If it be argued that conception is, in metaphysics, a power which enables us to form a notion of an *absent*

[1] Esquirol, in reference to such cases, speaks of persons losing their *personal identity*. But this sense is, in reality, no more lost than when the delusion has regard to some extraneous object. In fact, Brown draws one of his strongest arguments in favor of the universality of the consciousness of personal identity from the fact, that "even the very maniac, who conceives that he was yesterday emperor of the moon, believes that he is to-day the very person who had yesterday that empire."—*Philosophy of the Human Mind*, p. 83.

object of perception, or of some previous feeling of the mind; and that, therefore, the object being present, the error must be regarded as an illusion, we should be reduced to the absurdity of regarding a man who believes any one to be a tea-pot, as laboring under an illusion while the person is present, and a false conception (or delusion proper) directly the person has left him. The only practical mode of avoiding the difficulty is, we think, to consider in any case, whether there is involved a false perception, be it visual, auditory, olfactory, gustatory, or tactile.

Again, Brierre de Boismont gives, as an example of illusion, an individual believing that an entire stranger is his wife, or Napoleon Bonaparte. In the majority of such cases, however, there need be no illusion of any of the senses. Thus, a person informs us, who, when she was insane, believed a particular person to be the enemy of mankind, that his appearance was then in no respect different to what it is now; but the patient added, "*Ideally*, he seemed nothing but Satan." On our asking whether she was not surprised at the individual not having the external form vulgarly attributed to him, she gave a reply, which was, doubtless, the correct scientific explanation of the fact, "I do not think I had enough reasoning power to be aware of any inconsistency in my belief."

It may here, also, be remarked, that while in genuine illusion and hallucination, no appeal to the reason, even if that appeal succeed in producing conviction, alters the *appearance* of the object; in delusion proper, once convince the patient of the absurdity of his belief, and the disorder itself entirely vanishes. This is well illustrated by the cure of the man who thought his legs were made of glass. His servant, we are informed, bringing one day some logs of wood to mend the fire, threw them carelessly down; for which her master, who was terrified for his leg of glass, severely reprimanded her. The surly maid, who was heartily tired of her master's insanity, gave him a smart blow on the leg with one of the logs, which hurt him a good deal, and so provoked him, that he rose from his seat (from which he never walked for fear of breaking his legs) in a violent hurry to revenge the insult. Soon after, when his anger was abated, he was happy to find that his legs were able to support him; and his mind was, from that time, perfectly freed from this absurd imagination.[1]

Patients have believed themselves transformed into wolves (lycanthropia), dogs (cynanthropia), lions, cats, cows, sparrows, cuckoos,

[1] Van Swieten: cited by Arnold, vol. i, p. 127.

earthen vessels, pipkins, jars, tea-pots, &c. Some have supposed themselves to be grains of wheat, and have been forever in apprehension lest they should be so unfortunate as to be eaten up; and a lady is recorded to have believed herself to be a goose-pie. It is related of a man, that he believed himself to be Atlas, supporting the world on his back, and was in great dread, lest it should fall and crush, not only himself, but all mankind to atoms.[1]

We learn from Cellini's autobiography that the governor of the castle in which he was confined, "had annually a certain periodical disorder, which totally deprived him of his senses, and when the fit came upon him, he was talkative to excess. Every year he had some different whim; one time he conceived himself metamorphosed into a pitcher of oil; another time he thought himself a frog, and began to leap as such; another time he imagined he was dead, and it was found necessary to humor his conceit by making a show of burying him. Thus had he every year some new frenzy. This year he fancied himself a bat, and when he went to take a walk, he sometimes made just such a noise as bats do; he likewise used gestures with his hands and his body, as if he were going to fly."[2]

In all these examples, there appears scarcely to be implied a morbid sensation; at the same time, in some of them, the false idea may have originated in a morbid sensation. This may, perhaps, be suspected when a man believes himself to be made of butter, wax, &c. The case of the man who believed his legs were made of glass, would by many be called an example of illusion; but we do not think so. He might not, in the proper sense of the word, *feel* that his legs were vitreous; he would probably conceive them to be so; and he would not, we imagine, contend that they *looked* like glass. In any one instance, however, in which the patient does so feel or see, the terms would, doubtless, be correctly applied. When a man, after amputation of the leg, feels it still to be there, he unquestionably does so from false sensations, which, however, he corrects by the testimony of his other senses.

The following is a case which will at once serve forcibly to illustrate the strange delusions to which patients are subject, and also the ill-defined boundary line which often separates a false conception, or intellectual belief, from an illusion. It would, probably, by some be regarded as "an illusion of hypochondriasis;" but we think it is, at least in some of its features, illustrative of delusion proper. A pa-

[1] Arnold, vol. i, pp. 124, 129, 133.

[2] Vol. i, p. 339.

tient[1] at the Retreat gave this description of himself: "I have no soul; I have neither heart, liver, nor lungs; nor anything at all in my body, nor a drop of blood in my veins. My bones are all burnt to a cinder; I have no brain; and my head is sometimes as hard as iron, and sometimes as soft as a pudding."

The expressions "hard" and "soft" would appear to imply that the patient experienced such sensations, and therefore this latter error we should refer to the head of illusion; but the error the patient had fallen into, in regard to the loss of his soul, &c., belongs surely to a different class—to that, namely, of false conceptions, independent of any sensation properly so called.

Many examples of lycanthropia (to which reference has been made), are on record, although an extremely rare disease, as compared with other forms of insanity. It was recognized by ancient writers. "Those laboring under lycanthropia," says Paulus Ægineta, "go out during the night, imitating wolves in all things, and lingering about sepulchres until morning. You may recognize such persons by these marks: they are pale, their vision feeble, their eyes dry, tongue very dry, and the flow of the saliva stopped; but they are thirsty, and they have incurable ulcerations from frequent falls." Haly Abbas described a disease, which he called *melancholia canina*, observing, that the patient delights to wander among tombs, imitating the cries of dogs.[2]

[1] Another patient, equally deranged, thus described him in verse:

"A miracle, my friends, come view,
A man, admit his own words true,
Who lives without a soul;
Nor liver, lungs, nor heart has he,
Yet, sometimes, can as cheerful be,
As if he had the whole!

"His head (take his own words along)
Now hard as iron, yet, ere long,
Is soft as any jelly:
All burnt his sinews, and his lungs;
Of his complaints, not fifty tongues
Could find enough to tell ye.

"Yet, he who paints his likeness here,
Has just as much himself to fear;
He's wrong from top to toe:
Ah! friends, pray help us, if you can,
And make us each again a man,
That we from hence may go."

[2] Paulus Ægineta, vol. i, p. 390.

This remarkable disorder spread throughout Europe in the fourteenth and fifteenth century. "Those suffering under wolf-madness and dog-madness, abandoned their homes to resort to the forests, allowing their nails, hair, and beard to grow, and carrying their ferocity so far as to mutilate, and sometimes to kill and devour children. In the year 1591, Peter Burgot, Michael Verdun, and another, were tried for this strange affection, and pleaded guilty. Peter Burgot avowed that he had killed a youth with his wolf-paws and teeth, and would have eaten him, if the peasants had not given him the chase. Michael Verdun admitted that he had killed a little girl gathering peas in a garden, and that he and Burgot had killed and eaten four other girls. These three unfortunate persons were all burned alive."[1]

At the asylum of Mareville, there was not long since a patient, the youngest of five brothers, who had all been insane, whose condition was as follows: He was a prey to the most fearful apprehensions of future punishments for imaginary crimes; all his limbs trembled while he implored the assistance of Heaven, and of his friends. Soon after, he rejected every attempt made to console him, and all his thoughts became concentrated upon one idea. He thought he was a wolf. "See this mouth," he exclaimed, separating his lips with his fingers; "this is the mouth of a wolf, these are the teeth of a wolf; I have cloven feet. See the long hairs which cover my body; let me run into the woods, and you shall fire at me with a gun." Some time after this, when in an improved condition, he enjoyed nursing some children; but, scarcely had they left him, when he exclaimed: "The unfortunates! they have embraced a wolf." At another time, he refused to eat his meals, but said: "Give me raw meat, for I am a wolf!" His wish was complied with, and his mode of eating was altogether like an animal. He shortly died, however, much emaciated, the victim, to the last, of this strange and terrible conception.

Esquirol states, on the authority of Calmet, that in a convent in Germany, the monks believed themselves changed into cats, and that, at a certain hour of the day, these monks capered about the convent, mewing as fast as they could (*en miaulant à qui mieux, mieux*).[2]

This case affords an opportunity for making the remark, that a delusion is very frequently the last symptom in the succession of morbid mental phenomena; that, in truth, it may be but the reflex

[1] "Des Hallucinations," p. 327. [2] "Maladies Mentales," vol. i, p. 522.

of an emotion; and though, strictly speaking, an intellectual disorder, it may be the result, and merely the symptom, of a disorder of the feelings. Moral insanity, indeed, not uncommonly terminates in monomania. The delusion of being a royal personage may be an intellectual conception, at once the offspring and the index of uncontrollable pride; and in the foregoing case, the belief in the transmutation into a wolf was intimately associated with a depressed state of the feelings—with melancholia.

The same observation applies, with even greater force, to another so-called monomania; the disorder in which the patient conceives himself to be demoniacally possessed. Demonomania, in the vast majority of cases, has been but a symptom of disease of the affective faculties; so complex are the phenomena of diseased mind, and so completely do they set at defiance any rigid system of classification. Paulus Ægineta, after speaking of madmen who fancy themselves to be brute animals and imitate their cries, and of others who conceive themselves to be earthen vessels and are frightened lest they be broken, adds: "Some believe themselves impelled by higher powers, and foretell what is to come as if under Divine influence; and these are,. therefore, properly called demoniacs, or possessed persons." This description, however, although it may have included, does not exactly describe more modern cases of demonomania—in which the patient is much depressed, pretends to no supernatural knowledge, and is firmly convinced either of being possessed by, or actually transformed into the devil. A patient under Esquirol's care thus described herself: "The devil has taken from me my body, and I have no longer a human shape. There is nothing so dreadful as to appear to live, and yet not be of this world. I burn—sulphur exhales with my breath. I neither eat nor drink, because the devil has need of food or drink. I feel nothing; and, should I be placed in a terrestrial fire, I should not burn. I shall live millions of years; that which is upon the earth cannot die. Were it not so, despair would have caused me, long since, to terminate my existence."

"Nothing," says Esquirol, "undeceives her, and she is abusive in her language to those who seem to doubt the truth of what she affirms; those who contradict her, she calls sorcerers and demons. If they insist upon the correctness of their opinion respecting her, she becomes irritated, her eyes project, and are red and haggard. 'Look, then,' she says; 'at this beautiful figure; is it that of a woman or a devil?' She strikes herself violently with her fist upon her chest.

She pretends, also, to be insensible; and, to prove it, pinches her skin with all her might, and strikes her chest with a wooden shoe. Still, she manifests pain when not forewarned. This woman is tranquil, is not mischievous, and speaks rationally upon every other subject, when we can divert her thoughts."

The writer we have just quoted from states that, out of twenty thousand insane persons who had passed under his observation, he had "scarcely seen one of a thousand stricken with this fatal disease." He suggested, that the term *cacodemonomania* should be employed; as the ancients did not use the word demon, necessarily, in a bad sense: while he would apply that of *theomania* to those cases in which the patient believes himself to be the Deity.

Examples of demonomania, and of other delusions, might be multiplied; those we have mentioned are, as it appears to us, fairly referrible to the third division,—that of delusion proper. The consideration of the first and second division will now demand our attention.

False Perceptions.—Esquirol was the first writer who attached very definite significations to the words hallucination and illusion. "A person," says he, "labors under a hallucination, or is a visionary, when he has a thorough conviction of the perception of a sensation, when no external object suited to excite this sensation, has impressed the senses." Elsewhere, he observes: "I have proposed the word hallucination as having no determinate signification, and as adapted, consequently, to all the varieties of delirium which suppose the presence of an object, proper to excite one of the senses, although these objects may be beyond their reach."

"In illusions, on the contrary," the same authority remarks, "the sensibility of the nervous extremities is altered; it is exalted, enfeebled, or perverted; the senses are active, and actual impressions solicit the reaction of the brain." In short, "illusions are produced by external and by internal sensations."

We will first take *hallucinations.*

They were not regarded by Esquirol as caused in any instance by morbid conditions of the organs of sense, but as strictly cerebral, that is, mental in their origin. "The senses," he says, "are not concerned in their production; they occur although the senses do not perform their functions, and even though they do no longer exist." It may well be doubted, we think, whether there is sufficient reason for thus restricting the term, inasmuch as one individual may perceive an object which has no present existence, in consequence of a

diseased condition of the optic nerve; and another may perceive an object which has no present existence in consequence of mental—that is cerebral—disease. Dr. Foville, indeed, has stated that he discovered lesions of the nerves in patients who had been the subjects of hallucinations,—a circumstance which Esquirol was inclined to attribute to coincidence. Baillarger, moreover, has distinctly recognized the possible duplex origin of hallucinations, which he has divided into *psycho-sensorial*, or those which originate in the combined action of the imagination and the organs of sense; and *psychical*, or those which are the consequence of a disordered mental condition, without disease of the senses. Brierre de Boismont considers that these distinctions depend upon the degree of intensity of the phenomena. Referring to hallucinations of the sense of hearing, he says: "If the perception be feeble, the hallucination is without noise; if it be more intense, a sound is heard." And he thinks "the sound is heard, not from extension of the disease to the senses, but because certain conventional signs, always associated with certain ideas, are recalled when those ideas are produced with great vividness." Thus, he defines a hallucination as "the perception of the sensible signs of an idea." "With the reflective man, it is the highest degree of tension at which his mind can arrive—a true ecstasy. In societies with profound convictions, where the imagination is not rectified by science, it is the reflection of a general belief; but, in these two cases, it does not offer any obstacle to the free exercise of reason." In such instances, Brierre de Boismont would call them *physiological* hallucinations, as distinguished from those which are accompanied with unsoundness of mind, and which he would call *pathological*. This view of the subject, as he observes, "leaves on their pedestal the statues of illustrious men, whom some would wish to throw down into the abyss of insanity."

It is important to bear in mind this distinction, and not to forget that hallucinations may exist without insanity. Thus, Andral, on entering his room, distinctly saw, for a quarter of an hour, the corpse of a child which he had dissected a short time before. Johnson, one day at Oxford, when he was turning the key of his chamber, heard his mother distinctly call "Sam," although she was then at Lichfield. Napoleon was said to have interviews with a familiar spirit in the form of a little red man; and, on better authority, we are informed that he saw his star. "I see it," said he, "in every great occurrence; it urges me onward, and is an unfailing omen of success."

But, of course, now that we are engaged in considering the disorders of the mind, we discard the use of the term in such a sense (the physiological), and restrict it to the perception, along with evidence of cerebro-mental disease, of objects which, at the time, have no existence; this false perception being either the consequence of the combined disordered condition of the mind *and* one or more of the senses (psycho-sensorial), or of the mind only (purely psychical).

In regard to their frequency among lunatics, Esquirol says that of 100 insane patients, 80 have hallucinations. M. Brierre states, that out of 62 patients in his asylum, hallucinations were present in 38 and absent in 24 instances. With 18 monomaniacal patients, sight and hearing were involved in 8, taste and hearing in 1, hearing alone in 2, and sight alone in 1. Of 66 cases of monomania, admitted during one year into the Bicêtre, 35, or one half, had hallucinations; namely, 19 of hearing, 11 of sight, 3 of taste, 1 of touch, and 1 of the internal organs. Melancholia affected 21 out of the 66 monomaniacs, and of these, 11 had hallucinations; 6 being of hearing, 3 of sight, and 2 of taste.

In mania, hallucinations are frequently present. The writer last quoted, states that of 181 maniacs, 23 had hallucinations of hearing, 21 of sight, 5 of taste, 2 of touch, 1 of smell, and 2 of internal sensations. Hallucinations are also frequently observed in puerperal mania.

In the earlier stages of dementia, we meet with these phenomena; also, occasionally in general paralysis. One instance is on record, in which the patient had almost lost the power of speech; at times, however, he was able to make those around him understand, that he could see a shark beside him ready to devour his body. A patient now in the Retreat, is the subject of the same hallucination. On retiring to rest, he is frequently alarmed by the appearance of a shark by his bedside.

Lastly, hallucinations may occur in epilepsy, catalepsy, delirium-tremens, in phrenitis, in fever, and in the course of some other diseases; or, again, when the system is reduced by abstinence, &c. To this latter cause may be referred the hallucinations of Cellini, to which we shall shortly refer.

In regard to the relative liability of the senses to hallucinations, although among the sane, those of sight are most frequent; among the insane, those of *hearing* appear to be decidedly the most common. They are estimated to form two-thirds of the whole number. They

appear to be most generally experienced when the patient is falling asleep; partly, no doubt, in consequence of the less degree in which, at such times, the attention is fixed, or the comparing faculty exercised. Of 144 cases of hallucination, 62 are stated to have been in the night, 50 in the day, and 32 during both. A patient in the York Dispensary used to complain bitterly of a voice repeating in his ear everything that he was reading; and, on one occasion, he distinctly heard the same voice commanding him to throw himself into a pond in his garden. He obeyed the voice; and, when removed from the water and asked why he had done so rash an act, he replied, that he much regretted it, but added, "*he* told me that I must do it, and I could not help it." The poet Cowper was distracted by hallucinations of this sense. "The words," says his biographer, "which occurred to him on waking, though but his own imaginations, were organically heard; and Mr. Johnson, perceiving how fully he was impressed with a belief in their reality, ventured upon a questionable experiment. He introduced a tube into his chamber, near the bed's head, and employed one with whose voice Cowper was not acquainted, to speak words of comfort through this conveyance." It is a remarkable proof how real such hallucinations appear, that this hazardous artifice was never discovered. It does not, however, appear to have been productive of any benefit. His medical attendant one day found him with a penknife sticking in his side, with which he had attempted self-destruction, believing he had been ordered to do so by a voice from heaven.

Cellini, after undergoing great suffering in prison, relates that a being came to him, "invisible, but which spoke with an audible voice, shook me, made me rise up, and said, 'Benvenuto! Benvenuto! lose no time, raise your heart to God in fervent devotion, and cry to Him with the utmost vehemence.' . . . When the next morning came, I awoke at daybreak, and, having quitted my wretched couch, prayed with greater devotion than ever I had done before, to be favored with a Divine inspiration to let me know for what offence I was so severely punished, since I was not permitted to behold the sun, even in a dream, as I had earnestly desired. When I had uttered these words, my invisible guide hurried me away like a whirlwind to an apartment, where he unveiled himself to me in a human form, having the figure of a youth with the first down upon his cheeks, and of a most beautiful countenance, on which a particular gravity was conspicuous; he then showed me innumerable figures upon the walls of the apartment,

and said to me: 'All those men whom you see thus represented, are such as have here finished their mortal career.' I then asked him why he brought me thither? To this he answered: 'Come forward, and you will soon know the reason.' I happened to have in my hand a little dagger, and on my back a coat of mail; so, he led me through that spacious apartment, and, showing me those who travelled several ways, to a distance of an infinite number of miles, he conducted me forward, went out at a little door into a place which appeared like a narrow street, and pulled me after him: upon coming out of the spacious apartment into this street, I found myself unarmed and in a white shirt, without anything on my head, standing at the right of my companion. When I saw myself in this situation, I was in great astonishment, because I did not know what street I was in: so, lifting up my eyes, I saw a high wall, on which the sun darted his refulgent rays. I then said to my friend, how shall I contrive to raise myself, so as to be able to see the sphere of the sun? He thereupon showed me several steps which were upon my right hand, and bid me ascend them. Having gone to a little distance from him, I mounted several of those steps backwards, and began, by little and little, to see the approaching sun. I ascended as fast as I could, in the manner above-mentioned, so that I at last discovered the whole solar orb; and, because its powerful rays dazzled me, I, upon perceiving the cause of it, opened my eyes, and, looking steadfastly on the great luminary, exclaimed: 'O brilliant sun, whom I have so long wished to behold! I from henceforward desire to view no other object, although the fierce lustre of thy beams quite overpowers and blinds me.' In this manner, I stood with my eyes fixed on the sun; and, after I had continued thus wrapt up for some time, I saw the whole force of his rays united fall on the left side of his orb. . . . Whilst I gazed on this noble phenomenon, I saw the centre of the sun swell and bulge out; and, in a moment, there appeared a Christ upon the cross, formed of the self-same matter as the sun, and so gracious and pleasing was his aspect, that no human imagination could ever form so much as a faint idea of so much beauty. As I was contemplating this glorious apparition, I cried out aloud: 'A miracle, a miracle! O God! O clemency divine! O goodness infinite, what mercies dost thou lavish on me this morning!' At the very time that I thus meditated and uttered these words, the figure of Christ began to move towards the side where the rays were centred, and the middle of the sun began to swell and bulge out as at first; the protuberance having

increased considerably, was at last converted into the figure of a beautiful Virgin Mary, who appeared to sit with her Son in her arms, in a graceful attitude, and even to smile; she stood between two angels of so divine a beauty, that imagination could not even form an idea of such perfection. I likewise saw, in the same sun, a figure dressed in sacerdotal robes; this figure turned its back to me, and looked towards the blessed Virgin. . . . This wonderful phenomenon having appeared before me about eight minutes, vanished from my sight, and I was instantly conveyed back to my couch."[1]

Next in frequency to hallucinations of hearing are those of *sight*. All visionaries afford examples. The preceding narrative of Cellini will serve to illustrate this form of hallucination, as well as that of hearing. Hallucinations affecting the sense of touch, are not very common. Patients sometimes complain of experiencing electric shocks; at other times, they fancy they are struck by imaginary beings. Hallucinations of this sense require carefully distinguishing from neuralgic affections. Haslam has recorded the case of a man who believed himself persecuted by a gang of wretches who, by their knowledge of pneumatic chemistry, had the power of inflicting various kinds of punishment upon him. Sometimes they drew out the fibres of his tongue; at other times, they stretched out a veil under the base of his brain, and thus intercepted the communication between his mind and his heart. By means of a magnetic fluid, they almost squeezed him to death. This was "lobster-cracking," and is described by the patient himself, as follows: "In short, I do not know any better way for a person to comprehend the general nature of such lobster-cracking operation, than by supposing himself in a sufficiently large pair of nut-crackers, with teeth, which should pierce, as well as press him, through every particle within and without,—he experiencing the whole stress, torture, driving, oppressing, and crush, altogether."

Other modes of torture practised by this gang with their infernal machine, and experienced by this hallucinated patient, were: *Stomach-skinning*, *apoplexy-working with the nutmeg grater*, *foot-curving*, *knee-nailing*, *eye-screwing*, *sight-stopping*, *vital-tearing*, *fibre-ripping*, *lengthening the brain*, *bomb-bursting*, *&c.*

Berbiguier believed that hobgoblins were continually coming to and leaving his body,—supporting themselves upon him, in order to fatigue him, and to oblige him to sit down. These invisible enemies travelled over him day and night, and their weight was sometimes such, that

[1] "Life of Cellini," vol. i, p. 499.

he was afraid of being smothered. In order to defend himself against their power, he imagined that he seized them dexterously under his clothes, and fixed them to his mattress with thousands of pins, or else secured them in bottles.[1]

Hallucinations of *smell* are rarely met with uncomplicated with disorder of one or more of the other senses. Patients do, however, sometimes complain of very bad odors, and at other times of very pleasant ones, when neither have any existence. We had a very good example of the former in an insane patient some time since, who complained exceedingly of the injury done to her health by the sulphurous fumes with which some one, as she believed, continually filled her room.

Lastly, the sense of *taste* is but rarely affected alone. Patients who believe they are taking poison in their food, are not usually examples of this class.

Hallucination of one sense is less commonly found than hallucination of several.

Sometimes, but rarely, all the senses are involved. The following is a remarkable illustration of this. A lady,[2] forty years of age, first experienced symptoms of disordered mind ten years ago. She saw the most extraordinary forms; she heard voices which appeared to her to proceed from her stomach, and continually tormented her by dictating her actions, and by informing her of various complaints, and what she ought to take to remove them. Sometimes, they spoke on other subjects, as geography, grammar, rhetoric,—correcting her when she pronounced amiss, and reminding her of any faults which she had committed. One day they made her believe that she was possessed, which was the more remarkable, as she was not brought up with superstitious notions. Since this period, she has suffered from painful impressions regarding eternity, which have produced feelings of intense despair. Again, she has singular visions, her room being filled with imaginary personages, &c., figures of all kinds, and numerous processions defiling before her; or she distinguishes individuals who have only half their form; they are great, little, counterfeit, and assume the most extraordinary shapes. At another time, she sees her own eye rolling before her, as if it had been torn from its socket.

The food which she eats has lost its natural taste, and is disagreeable; or she seems to be swallowing vinegar or other things which she detests. Just as she is putting her hand to a dish, these "voices"

[1] "Des Hallucinations," p. 86. [2] Ib. p. 89.

very often produce one of those nauseous flavors, in order to prevent her tasting anything.

When she walks, she feels as if she was drenched with water, its coldness penetrating her body, so that she dries with her hands her wet clothes.

Add to these affections, that she is frequently annoyed by odors which she especially dislikes; and the case presents a very interesting example of false sensations, in which none of the senses are allowed to escape.

The following is also an example of hallucination of all the senses, occurring in a poor woman in York. She is firmly convinced of the existence of a persecuting fellow in a room above her own, who vents all his malignity upon her by means of certain machinery, and wires. By the former, he manufactures a quantity of tow, which she sees "whirling round from the ceiling;" and by the latter, he torments her in the most cruel manner. He "brays" her in the night with three of these wires, so that she is stiff in the morning, and covered with marks "as if she had been switched," and the difficulty of rising is often increased by "skewing her down in bed." At another time he will thrust three wires into her mouth, which leave "a very bitter verdigris *taste*" therein. She protests that she can see a "hole like the cut of a knife" in one corner of the ceiling, through which he introduces the wires, and she says, "When I try to get hold of them, he soon has them away." He also delights to send her to sleep "with that chloroform," which she *feels* dropping from the ceiling upon her cap, in addition to which she has, in consequence, enveloped her head in a couple of handkerchiefs.

As regards the sense of sight, she has only once or twice *seen* her persecutor; but when she wanted to speak to him, he turned away. He is a middle-sized and middle-aged man. She says, however, very naturally, "I feel him over much to want to see him."

She *hears* him more frequently than sees him; hears him "nestling about the room;" she also hears the wires pushed through the ceiling; and she has stopped her clock, and covered it up, because he used to employ his wires to make it strike some twenty times in the night, in order to disturb her.

Her sense of *smell* is at present free; formerly she was much annoyed in this respect also.

In regard to the *causes* of hallucinations, they may be regarded as both moral and physical. When they are epidemic, they fall under the former head. Superstition, also mental emotions of any kind,

and undue mental exertion, belong to the same class. Physical causes, in common with those which generate or favor insanity in general, include hereditary disease, intemperance, &c. The influence of certain substances, such as haschisch, opium, stramonium, &c., may be especially mentioned.

Hallucinations may be continuous, remittent, intermittent, or periodical; they may, although rarely, be at the will of the individual, so that he can recall them at pleasure; they may have one character to-day, and another to-morrow; in some cases, in which the sense of sight is hallucinated, closing the eyes will dispel the affection. Sometimes a patient hears sounds only through one ear, or sees imaginary objects only through one eye, the other eye and ear being unaffected.[1] Again, the number of voices heard will vary; in some instances an animated dialogue is sustained with all the force of reality: in others, two or more distinct voices are recognized by the patient; and a linguist will occasionally hear voices in different languages. It is of the utmost importance to ascertain the *character* of the hallucinations; for on this will often depend the danger which attaches to it, and the necessity for the deprivation of the patient's liberty. It is obvious that a man who hears a voice commanding him to commit an act of violence towards others, or to destroy himself, requires strict watching or confinement; whilst a man who only hears a voice proclaiming his rank and wealth, may be harmless, and require no restraint whatever. Regarding the subject from a medico-legal point of view, an inquiry into the existence of hallucinations will often afford a key, as M. Brierre has well observed, to numberless determinations, singularities, and actions, totally unexplained by, and at variance with, the character, the manners, and the habits of the individual. "It is certain that there are in the world a considerable number of insane persons, who, from one cause or another, have never come under medical care, and whose derangement has not even been recognized by those around them. They, however, seek occasion for a quarrel, provoke a duel, do some injury, assassinate and commit suicide, in obedience to certain voices, mandates, and false sensations."

As regards the pathological changes found in these conditions of the mind, there does not appear, unless we except the observations already referred to of Dr. Foville, any researches which would esta-

[1] *Vide* "Bibliothèque du Médecin—Praticien." Tom. ix.

[2] "Des Hallucinations," p. 94.

blish a constant relation between any structural change and the particular sense affected.

Illusions.—These have already been distinguished from hallucinations, by the existence, in the former, of something internal or external to the body, which is the basis of the illusion. In the most perfect state of mental health, we are subject to certain illusions; but here, as Esquirol observes, "Reason dissipates them. A square tower, seen from a distance, appears round; but if we approach it, the error is rectified. When we travel among mountains, we often mistake them for clouds. Attention immediately corrects this error. To one in a boat, the shore appears to move. Reflection immediately corrects this illusion. Hypochondriacs have illusions which spring from internal sensations. These persons deceive themselves, and have an illusion respecting the intensity of their sufferings, and the danger of losing their life. But they never attribute these misfortunes to causes that are repugnant to reason. They always exercise sound reason, unless melancholia is complicated with hypochondriasis." The essential character of illusions is, observes M. Brierre, the transformation of sensorial perceptions, having their origin in external or internal objects. While "hallucination is the perception of the sensible signs of an idea," "illusion is the false appreciation of real sensations."

Illusions, like hallucinations, may affect any of the senses separately, or all of them. Those of sight are the most frequent; those of hearing are the next in order; but, some observers state that they are equally as common as the former. The sense of touch often suffers. With hypochondriacal patients, we observe endless varieties of false sensations, or visceral illusions, as they are sometimes called. It is often very difficult, and sometimes quite impossible, as we observed before, to draw the line between some of these illusions, and false conceptions. Frequently, they are united in the same case. If, however, the nerves of sensation convey to the mind exaggerated impressions regarding any part of the body, it constitutes an illusion; and, if it is manifestly absurd, and the patient's reason cannot perceive that it is an illusion, he is also of unsound mind.

Several of the examples already cited, when speaking of delusion proper, are usually regarded as hypochondriacal illusions. To this division, the following case would, by some writers, be referred; but, however hypochrondriacal the patient was, his particular delusion was rather a false notion than perverted sensation. The melancholy under which he labored was father to the thought. If electro-

biologists can make a man disbelieve his own personality, and fancy himself metamorphosed into some other person, by the law of suggestion, as explained by Dr. Carpenter, cannot melancholy feelings suggest such ideas or beliefs as these? "A young hypochondriac had a strong imagination that he was dead, and did not only abstain from meat and drink, but importuned his parents, that he might be carried to his grave and buried before his flesh was quite putrefied. By the counsel of physicians, he was wrapped in a winding-sheet, laid upon a bier, and so carried on men's shoulders towards the church: but, on the way, two or three pleasant fellows (hired for that purpose), meeting the hearse, demanded aloud of them that followed it, whose body it was that was then coffined and carried to burial? They said it was a young man's, and told his name. Surely, replied one of them, the world is well rid of him, for he was a man of a very bad and vicious life, and his friends have cause to rejoice that he hath ended his days thus rather than at the gallows. The young man hearing this, and not able to bear such injury, roused himself upon the bier, and told them they were wicked men to do him that wrong he had never deserved; that, if he were alive again, he would teach them to speak better of the dead! But they proceeding to defame him, and to give him much more disgraceful and contemptuous language, he, not able to suffer it, leaped from the bier and fell about their ears with such rage and fury, that he ceased not buffeting them till quite wearied."[1] The result of this excitement was perfect recovery within a few days.

These observations upon hallucinations and illusions may be concluded, by succinctly stating the points of real practical importance in regard to them. Either may exist (the former rarely) in persons of sound mind; but in that case they are discredited, in consequence of the exercise of reason and observation, or, if credited, they do not influence the actions. They are sometimes, with difficulty, distinguished the one from the other, and indeed often merge into, or replace each other; but, still they ought to be distinguished by the points of difference already laid down. Either may be the cause of violent acts, and terminate in murder or suicide; their discovery in criminal insanity is, therefore, most important. Hallucinations are most frequently met with in monomania and melancholia, but are not uncommon in mania. We have several times observed them present with great vividness in incipient senile dementia, and they may be present in the later stages of dementia, and in imbecility, without our

[1] *Vide* Arnold, vol. i, p. 130.

being able to discover their existence. Illusions are not so common in monomania and melancholia as are hallucinations, being more frequent in mania. The senses of sight and hearing are more liable to hallucinations, than those of touch, taste, and smell. Pathological anatomy has not hitherto thrown any certain light on the particular lesion associated with hallucinations. Brierre de Boismont concludes, that there cannot be any appreciable anatomical changes. As regards prognosis, this writer observes, that monomania, when of a lively character and recent occurrence, is only slightly influenced by them; it is otherwise with melancholia, which frequently receives from them the most unfortunate impulses; they may be dangerous in mania also, from the acts they incite; when of long continuance, they add to the seriousness of the prognosis;[1] their presence was observed, by Esquirol, to be little favorable to the cure of insanity.

Section IV.—*Of Melancholia.*

The etymology of this term, and the signification attached to it by the ancients, and by modern writers prior to Esquirol, have been pointed out when speaking of monomania. It corresponds to the *tristimania* of Rush; the *melancolie*, *phrenalgia*, *luperophrenie*, of Guislain; the *trübsinn*, *tiefsinn*, of the Germans; and the *sadness*, and *melancholy*, of English writers.

Esquirol suggested the word lypemania (λυπεω, to cause sadness, and μανια), in the place of melancholia, but added, that he should employ the two words indifferently, believing that custom had consecrated the latter appellation.

"We consider it well-defined," he observes, "by saying that melancholia or lypemania, is a cerebral malady, characterized by partial chronic delirium, without fever, and sustained by a passion of a sad, debilitating, or oppressive character." A definition sufficiently accurate, if we except the "chronic delirium;" disorder of the intellect not being, as we shall presently see, an essential part of the disorder.

The invasion of melancholy, as of other forms of mental disorder, is variously characterized in different cases. It may be sudden, as when the immediate consequence of grief,[2] or, gradual and long threatened

[1] "Des Hallucinations," p. 493.

[2] Dr. Conolly records the case of a lady who lost her only son, who was her idol, by a sudden and most unexpected death. He dropped down dead in the midst of apparent health. The shock stunned and overwhelmed the unfortunate parent, and, for a

by premonitory symptoms, and, perhaps, the mere exaggeration of the patient's natural character; or, lastly, it may be altogether secondary to other forms of insanity, especially to mania.

The first mode of invasion is, compared with the two latter, rare. The incubation of melancholy is generally prolonged, and sufficiently obvious. The subject of it loses his relish for existence, he feels depressed and unequal to the ordinary duties which call him into public life, and, in the domestic circle, he is more silent than in health, and seeks entire solitude. In the words of the poet,—

> "He makes his heart a prey to black despair;
> He eats not, drinks not, sleeps not, has no use
> Of anything but thought; or, if he talks,
> 'Tis to himself."—*Dryden.*

Thus, while cheerless, moody, and taciturn, he is not idle in mind, for he unceasingly revolves his own desperate condition, which he regards as worse than that of any other person; although, with characteristic inconsistency, he may regard it as good enough for a wretch like him; he magnifies every circumstance which can be regarded as of unfavorable omen, and is unable to realize those which are favorable; he misconstrues every observation addressed to him, and if he read, every sentence appears intended especially for him, if of a gloomy nature.

"The chief propensities manifested," observes Dr. Conolly, "are to indolence and general indifference; they (the melancholy) read nothing, write to nobody, shun all exertion; remarking keenly on their own altered state: 'Once I was industrious, now I am idle and worthless; the world does not seem as it did to me; everything good seems to have gone out of me.' Young men and young women may be thus affected; ceasing to be interested in any occupations; averse to going out or into society, and, in all the changes and chances of life, neither rejoicing nor sorrowful, neither hopeful nor anxious. One dominant propensity alone is too often active,—that of self-destruction."

As the disorder advances, the melancholiac, ever fearful, is constantly anticipating some dire catastrophe. He casts a continual

time, grief alone occupied her. In a few weeks her state became that of deep melancholia, in which she never, in any way, alluded to her cruel bereavement, but was ever reproaching herself as sinful, unworthy to live, and deserving of eternal condemnation. She became insensible to all ordinary occurrences and affections; indifferent to her family, inactive and silent, and attempted suicide.—*Lancet*, January, 1846.

gloom around him by his groans or sighs, and will frequently sit from morning to night deploring his unhappy lot; and when night comes, sleep, instead of being to him "balmy," or "tired Nature's sweet restorer," is frequently clothed in sadness, and only the signal of an aggravation of his disorder. A patient now under care, but not requiring the restraint of an asylum, wakes again and again in the night, oppressed with the most terrible feelings of distress, to which she looks forward in the day with the greatest apprehension. These nocturnal attacks generally last about half an hour, when they subside, and are succeeded by comparative calm. But the early morning is generally the occasion for increased mental suffering. One reason why melancholiacs are almost invariably worse on waking, is probably to be found in the unwonted activity and force which attend all operations of the mind at this period. Every one must have observed the vividness with which suggestions occur to the mind, and ideas irresistibly succeed each other, when conscious, although involuntary cerebration is then first put in action. Authors have owed some of their choicest thoughts and most felicitous expressions to this period of the day. With the melancholiac, his most vivid imaginations happen to be of the sombre class, and, becoming intense after the rest which the brain has had during the night, tyrannize over the feebly-opposing power of the will and judgment.

The increased susceptibility of the emotions in melancholia renders its subjects, in the *early* stage, easily moved to tears by trivial circumstances. The consolations offered by friends are refused as the storm blackens; or, at least, are disregarded. "Rarely," as has been truly observed, "do we succeed in convincing, and never in persuading them." "*I understand well what you say to me;*" (says a melancholiac), "*you speak reasonably, but I cannot believe you!*" The will of most is inflexible; nothing can subdue it; neither reasoning, nor the solicitations of the most active tenderness, nor threats. Nothing can triumph over their errors, their alarms, or fears. Nothing can remove their prejudices, their repugnances, or aversions. Nothing can divert them from the engrossing thoughts that occupy their mind and heart, but strong and unexpected shocks, sufficient to attract their attention."

All the symptoms now described, with occasional remissions, which generally deceive the patient's friends, have become so aggravated, and he is, to the most inexperienced, so decidedly insane, that he is

at last placed under care. Occasionally, he is a volunteer, and seeks the tranquillity of an asylum himself.

The association in the same character of a tendency to gloom, and an acute perception of, and love for, the ridiculous, is often remarkably exhibited in melancholy lunatics. The author of John Gilpin is a familiar example. Carlini, a French actor of reputation, consulted a physician to whom he was unknown, on account of the attacks of profound melancholy to which he was subject. The doctor, among other things, recommended the diversion of the Italian comedy; "for," said he, "your distemper must be rooted indeed, if the acting of the *lively Carlini* does not remove it." "Alas!" ejaculated the miserable patient, "I am the *very Carlini* whom you recommend me to see; and, while I am capable of filling Paris with mirth and laughter, I am myself the dejected victim of melancholy and chagrin!"[1]

Such are the most prominent symptoms of melancholia. An Athenian painter of celebrity, upon whose moral nature the fine arts do not, however, appear to have exercised a very humanizing influence, purchased an old man, a captive brought home from the wars, and put him to torture, in order that he might be the better able to delineate the pains and passions of his Prometheus, whom he was then engaged in painting. Upon which, quaint old Burton remarks, in his *Anatomy of Melancholy*, "I need not be so barbarous, inhuman, curious, or cruel for this purpose, as to torture any poor melancholy man; their symptoms are so plain, obvious, and familiar, there needs no such accurate observation or far-fetched object; they delineate themselves; they voluntarily betray themselves; they are too frequent in all places; I meet them still as I go; they cannot conceal it, their grievances are too well known, I need not seek far to describe them." In short, the symptoms of melancholia are so well pronounced when present, and hence so readily recognized, that they do not require to be very minutely described.

Patients laboring under melancholia may, however, indicate their distress of mind by very different external signs.

Some pour forth their grief in excited tones, and manifest a large amount of activity and restlessness.

Others are altogether depressed and silent.

These latter may, in accordance with the views of some authors, be subdivided into those melancholiacs whose apathy results from simple depression, and those in whom it is associated with decided

[1] Perfect's "Annals of Insanity," p. 404.

inaction of the intellectual faculties—the *melancholia attonita* of some writers. If this condition be still further aggravated—if there be a complete torpor of the mental functions—we then have the *stupidité* of M. Baillarger, which has already been referred to in a previous section.

Its subsequent course varies mainly, according to the constitution of the patient, his age, the degree in which the disorder is simple or complicated, and the presence of hereditary predisposition to mental disease. It has some tendency to pass into that "tomb of human reason—dementia." "On looking over our general register at Hanwell," observes Conolly, "this circumstance is continually illustrated, a great number of the patients now surviving, and who are marked in the register on admission, as affected with melancholy, being now in that state of entire prostration of the intellectual faculties to which we give the name dementia." The statistics of the Retreat show that this tendency is much less marked than in mania. Thus, out of forty-nine patients who died there, and who had been admitted in a state of mania, sixteen were examples of dementia; while of forty-eight who died, and who were admitted laboring under melancholia, only *four* died in a state of dementia.

Esquirol states, as the result of his experience, that in melancholia the mortality is one in twelve, while in mania it is only one in twenty-five.

He regarded it, likewise, as less curable than mania. The prognosis is much more favorable in simple melancholia, than when complicated with disorder of the intellect. Thus, Guislain has found that he cures nine out of every ten of the former class—nearly the whole—but only seven out of the same number of both classes combined. He adds to this statement, "the cure in an ordinary case may last from one to three months; after that period, all medicine, if the patient is not restored, becomes useless, and even mischievous. The patient's cure, if it take place after this, is due to the effect of nature."[1]

Haslam observes, "Patients who are in a furious state recover in a larger proportion than those who are melancholic. A hundred violent, and the same number of melancholic cases, were selected; of the former, sixty-two were discharged well; of the latter, only twenty-seven. Subsequent experience has confirmed this fact." There can be little doubt that these cases of melancholia had not been of the simple form, but had been associated with more or less

[1] "Leçons Orales," vol. iii, p. 79.

decided lesion of the intellectual functions. The experience of Haslam has not been confirmed by that of the Retreat; for at this institution, during forty-four years, the mean proportion of recoveries per cent. of the admissions was 53·43 in mania, and 54·88 in melancholia. Esquirol states that "a greater proportion of cases of mania is cured than of any other variety of madness." In his statistics, however, he did not distinguish melancholia from the other forms of monomania. But even, as Dr. Thurnam observes, "when these two groups are united, the proportion of recoveries from monomania, in this more extended sense, at the Retreat, would still amount to 42 per cent.; a proportion much nearer to that of recoveries from mania than is generally supposed to occur." He suggests that this apparent discrepancy is to be referred to the circumstance of a larger number of the slighter cases of melancholia having been admitted into the Retreat, than under Esquirol at Charenton.

Physical Symptoms.—Among the earliest of these are, loss of sleep and disturbed dreams. The digestive organs are frequently deranged; the tongue being unnaturally red or loaded, and the substratum firm, while there is a marked fulness at the epigastrium, and the alvine evacuations are deficient in bile. The tongue may in other cases be flabby, pale, and indented at the edges; a fixed dull pain, or an ill-defined sense of oppression in the head, is also often complained of. The pulse is not usually accelerated, but slow and compressible. The urine is often pale; sometimes high-colored, and depositing lithates. The skin varies; usually harsh, but not unfrequently moist and clammy.

In women, the uterine functions are more or less disordered, and are suspended in the large majority of cases. In men, the reproductive instinct is usually in abeyance.

The description given by Esquirol of the patient's physical condition is as follows, but applies to only a certain number of cases: "In person, the melancholiac is lean and slender; his hair is black, and the hue of his countenance pale and sallow; the surface over the cheek-bones is sometimes flushed, and the skin brown, blackish, dry, and scaly; whilst the nose is of a deep red color. The physiognomy is fixed and changeless; but the muscles of the face are in a state of convulsive tension, and express sadness, fear, and terror; the eyes are motionless, and directed either towards the earth or some distant point; and the look is askance, uneasy, and suspicious."

Sometimes melancholy induces a passive attitude; the arms hang

loose at the side, the hands are open, and the muscular system is relaxed altogether; at other times, grief intensifies the action of the muscles; the patient's arms are rigidly flexed; the hands clasped and pressed against his chest, or he wrings them in all the bitterness of despair.

Melancholiacs "complain," observes Dr. Conolly, "when any distinct complaint is made, of uneasy sensations in the epigastrium, in the left hypochondrium, or other parts of the abdomen; of a feeling of fluttering, drawing, gnawing, or tearing. They even refer a sense of terror to the epigastrium, accompanying a feeling of having done wrong, without knowing what. These sensations sometimes alternate with uneasiness referred to the forehead and occiput, or to the portion of the head corresponding with the superior and lateral boundaries of the occipital bone."

In regard to the comparative frequency of melancholia, it comes next in order to mania. At the Retreat, 45 per cent. of the admissions, during 44 years, were examples of mania; and 35 per cent. of melancholia. Among the former, however, are included cases in which the two forms alternated, but in which mania predominated. At Ghent, of 100 admissions during a series of years, 35 were maniacs; while 25, or one quarter, were the subjects of melancholy. Dr. Parchappe found at his asylum, at Rouen, that 42 per cent. of the admissions were maniacs; while 25, the same proportion as at Ghent, were melancholiacs. We may, therefore, calculate that about a quarter, probably rather more, of the admissions into asylums for the insane afford examples of melancholia.

Melancholia may be simple; complicated; acute; chronic; remittent; or intermittent.

I. Simple form. There is here no disorder of the intellect, strictly speaking; no delusion or hallucination. It is the *melancolie sans delire* of Etmuller and Guislain; the *lypemanie raisonnante* of Esquirol; and the *melancholia simplex* of Heinroth.

As there is not unfrequently a misapprehension of what Dr. Prichard intended to comprise under the term "moral insanity," we are especially anxious to state, in this place, the relation which simple melancholia bears to this form of mental alienation. It appears to be very generally supposed that, by this term, only those disorders are to be understood in which the animal propensities are under the influence of morbid action, without any aberration of the intellectual faculties. This is not only wrong in theory, but it occasions much

practical mischief. If moral insanity be only spoken of and recognized when vicious acts are threatened or committed, it is natural that the doctrine of moral insanity should be brought into disrepute, or altogether disregarded; and that a very erroneous idea should be attached to its area and limits. But if it can be shown that the disorder at present under consideration, may coexist with a sound condition of the purely intellectual part of our mental constitution; the proposition of the existence of what Prichard termed (somewhat unhappily) moral insanity, will not stand out in such prominent relief in its relation to vice, nor run so perilous a risk of being regarded as the mere apology for crime.

Dr. Prichard himself expressly says, "The term which I have adopted as designating this disease (moral insanity), must not be limited in its use to cases which are characterized merely by preternatural excitement of the temper and spirits. There are many other disordered states of the mind, which come under the same general division. In fact, the varieties of moral insanity are, perhaps, as numerous as the modifications of feeling or passions in the human mind. The most frequent forms, however, of the disease are those which are characterized either by the kind of excitement already described, *or by the opposite state of melancholy dejection.*" And, again, the same writer observes, "A considerable proportion among the most striking instances of moral insanity, are those in which *a tendency to gloom or sorrow is the predominant feature.* When this habitude of mind is natural to the individual, and comparatively slight, it does not constitute madness. But there is a degree of this affection which certainly constitutes disease of mind, and that disease exists without any allusion impressed upon the understanding. The faculty of reason is not manifestly impaired, but a constant feeling of gloom and sadness clouds all the prospects of life. The individual, though surrounded by all the comforts of existence, and even (exclusively of his disease) suffering under no internal source of disquiet,—at peace with himself, with his own conscience, with his God, yet becomes sorrowful and desponding. All things, present and future, are to his view, involved in dreary and hopeless gloom."[1]

"I meet every day," observes Guislain, "with melancholiacs who do not exhibit any disorder in their ideas, or lesion of the judgment." "Melancholia is exclusively an exaggeration of the affective sentiments; it is, in all the force of its signification, a *gemüthskrankheit*,

[1] "Treatise on Insanity," p. 18.

in the sense in which the word is employed by German psychologists. It is a pathological emotion, a sadness, a chagrin, a fear or dread, and nothing more. It is not a condition which sensibly weakens the conceptive faculties."[1]

Simple melancholy, then, as is so emphatically laid down by these writers, may exist in association with normal action of the intellectual functions, and is, therefore, fairly illustrative of what Prichard called moral insanity. Here, however, the doctrine is not fraught with consequences so important to society, nor does it interfere with the prejudices of mankind to a like extent, as when applied to the diseased workings of the propensities common to us and to the lower animals. And yet if it be admitted (and every writer of authority does admit) that a profound melancholy, for which the patient is irresponsible, is not inconsistent with the normal operations of the intellect, we are called upon to admit no *new* doctrine in mental pathology, when asked to believe that a like condition of the intelligence may coexist with a homicidal propensity, in however small a proportion of cases this may actually occur.

There is occasionally a very marked physical disturbance immediately preceding attacks of mental depression. We have a patient who describes the sequence of her sensations with singular minuteness: the first in the series being a sense of intense oppression at the heart, which appears to her to extend gradually upwards, and is followed by extreme dejection of mind. It is to such cases that the Professor of Ghent refers when he says, "There is a melancholy which I call *anxious* or *pneumo-melancolie*, on account of the disturbance of the thoracic organs. The distress which the patient suffers sometimes resembles attacks of suffocation. Sometimes this condition is associated with hysterical symptoms, but generally this is not the case. It is sometimes preceded by a painful feeling, which the patient refers to the region of the heart. This state may last two or three months before decided mental disorder is manifest. The patient loses his sleep; he is harassed with gloomy ideas; his features become altered; anguish, accompanied with vague forebodings, announces the *début* of the malady." He adds, "This variety of melancholy scarcely passes, in some cases, beyond the character of moral insanity. It is then free from all disturbance of the intellectual powers; so that the patient unceasingly complains to those who enjoy his confidence, that he is afraid he will lose his mind. I have

[1] "Leçons Orales," vol. i, p. 112.

known patients who have lived two or three years in this condition, without having ever suffered the least derangement of the understanding, still less of the ideas. . . . It may be the precursor of an attack of epilepsy; it constitutes the prodromic stage of suicidal insanity. It is not uncommon in females at the climacteric period."[1] It is the *precordialangst* of Dr. Flemming.

Nostalgia (νοστος, return; αλγος, sadness), home-sickness, may sometimes be a variety of simple melancholia. Army surgeons see the most of it. In six years, 1820–6, no fewer than ninety-seven soldiers in the French army fell a sacrifice to this disease. Young men, and those from the country, are more liable to be thus attacked than older men, and those accustomed to city life. The inhabitants of mountain districts—the Highlander and the Swiss—are observed readily to droop and become nostalgic when abroad. Gavin, however, quotes from Dunlop, the fact that the only two examples of nostalgia which occurred to him were, in a recruit, a country lad, from the fens of Lincolnshire, who died of the disease; and in a London pickpocket, whom he saw in 1824, in the hulks at Sheerness.

Probably, no one had greater opportunities of observing this disease than the celebrated Larrey. He was decidedly of opinion, from the observation of a large number of cases, that the mental faculties in nostalgic patients were the first to undergo a change. Decided aberration of mind was present in the cases which he has recorded. This was evidenced by the great exaltation of the imaginative faculty. The prospect of their native home presented itself to their mind's eye, like the *fata morgana* to travellers in the desert, depicted in the most extravagant and delusive hues which a morbid fancy could suggest. All this is often in the most violent contrast to the rude, uncivilized, and poverty-stricken home, which their better reason might suggest as the sober reality. This state of cerebral excitement is accompanied, at the commencement of the disorder, by corresponding physical symptoms. The heat of the head is increased—the pulse accelerated; there is redness of the conjunctivæ: and unusual movements of the patient may frequently be observed—perhaps occasioned by the uncertain pains in various parts of the body, of which he usually complains. The bowels are constipated; there is a general feeling of oppression and weariness, indicated by the patient frequently stretching himself and sighing. There is an inability to fix

[1] Op. cit. vol. i, p. 128.

the attention, and the conversation is, in consequence, somewhat unconnected.

The symptoms which succeed are a sense of weight, and pain in all the viscera. The deficiency of nervous power produces a torpid and partially paralyzed condition of the stomach and diaphragm. The symptoms of gastritis, or gastro-enteritis, which immediately supervene, M. Larrey considers as but sequelæ. The phenomena next presented, as the febrile symptoms increase, are those which we ordinarily observe when there is great derangement of the digestive functions, accompanied by fever.

The prostration of strength, which marks what may be called the third period of the disease, is very great. The mental depression keeps pace with the decline of bodily strength, and is often manifested by weeping, sighing, or groaning. A symptom resembling that of hydrophobia is sometimes present, namely, great aversion to the sight of clear liquids, as water, together with the usual disgust of food. A propensity to suicide is not unfrequently manifested when the debility becomes extreme; paralysis is also common; but, generally, death is the result of a gradual exhaustion of the vital powers.

M. Larrey witnessed, during the retreat from Moscow, a large number of his comrades perish in a similar condition of mind and body, from the effects of intense cold.

It has been frequently remarked, that the inhabitants of cold and moist, or of mountainous countries, are the most liable to the moral impressions which are the origin of nostalgia. The Dutch are a notable example among the inhabitants of a cold and moist, and the Swiss among those of a mountainous climate. Larrey found that the troops enlisted from these two nations were precisely those which, during the disastrous campaign of Moscow, and the cruel vicissitudes experienced, afforded the greatest number of victims to that morbid cerebral condition, so similar in its symptoms to nostalgia. It was observed, on the other hand, that the army of Napoleon which served in Egypt, did not produce a single case exhibiting the least symptom of nostalgia. On the contrary, the soldiers became exceedingly attached to the climate, so as almost to consider it a second home, and, like the Israelites of old, there was not one among them, who did not sincerely regret leaving the land of Egypt.

The hospital, especially during the year 1820, received many patients from among the Swiss Royal Guard, which were sent thither

for undefined complaints, which, however, speedily merged into decided nostalgia; and this disorder seemed most extensively prevalent during the extreme height of the barometer. Larrey cites the case of a soldier in the first Swiss regiment. His state did not appear alarming to Dr. Cornac, his physician, when he first entered the fever wards. One day, however, when Larrey visited him, he was informed that the unfortunate man had committed suicide, and, hastening to his assistance, found him weltering in his blood, and at the point of death, from a large wound in the region of the heart, inflicted with a knife. At the *post-mortem* examination, on sawing open the skull, M. Larrey was surprised to find a layer of lymph and purulent matter between the dura mater and the pia mater, which covered the entire circumference of the brain, and involved also the arachnoid membrane. On the cortical substance of the brain, especially towards the anterior lobes, and at the superior edges of the hemispheres, many points of suppuration were observed. The sinuses of the dura mater, as well as all the vessels of the head, were gorged with black blood; the ventricles contained a rather large quantity of serum; the base of the cerebrum and cerebellum alone remained sound.

From the facts of this case, we may, with Larrey, draw the conclusion, that a deep moral sentiment, the desire to revisit his native country, was the cause which gradually developed the cerebral disorder preceding the act of suicide in this Swiss,—an act which may be regarded as independent of the patient's volition.

In a similar case, opening the skull and the vertebral canal, exposed to view a layer of lymph, which covered the hemispheres of the brain; it was formed beneath the dura mater; yellowish points of suppuration penetrated, very deeply, into the anterior lobes of this organ; and a considerable quantity of reddish serum filled the lateral ventricles. The encephalon itself was hardened, and the membranes of the spinal cord inflamed.

In another patient, who died of the same disease, similar morbid appearances were discovered.

There are misanthropical and love-sick forms of melancholy, which may here be enumerated, but do not require any special description. The latter rarely attains to a sufficient degree of intensity to render necessary the restraint of an asylum. Guislain estimates its frequency at one in four hundred admissions at the institution at Ghent. Misanthropical melancholy rarely presents itself to our notice in an

uncomplicated form, so severe as to constitute mental disease; but, as has been justly observed, an aversion to human society, a desire for solitude, and a repugnance to the pleasures of the world, constitute the very essence of all melancholy.[1]

Hypochondriacal melancholy is by Guislain classed under the head of melancholy without disorder of the intellect, that is, simple melancholia. It is, however, so very generally accompanied by decided delusions, that it will be more convenient to consider it under the complex form.

II. Complicated melancholia, or melancholy with decided disturbance of the intellectual faculties. (*Melancolie avec délire*, *la melancolie delirante* of the French writers.) This we believe to be more common than the simple form. Guislain, however, states that in his experience, they are of equal frequency. Of each form, about 13 per cent. of the admissions are admitted into his asylum at Ghent.

Hypochondriacal melancholy. Much confusion exists in regard to the boundary line between what is popularly called hypochondriasis and genuine mental disease; and, in truth, this confusion arises, in great measure, from the inexact limit which separates the one from the other in nature. In a particular case it is often impossible to determine the precise period of the supervention of cerebro-mental disease. Guislain goes further than most writers, in including hypochondriacal symptoms under insanity. "Hypochondriasis," he observes, "is a disorder of the affective faculties—most certainly an alienation. This is proved by the affection being transformed into other mental diseases."[2] He divides it into two classes,—*bodily* and *mental*. Patients afflicted with the former, "believe themselves invalids and in suffering: they believe they have every infirmity, and every complaint. They experience all the diseases which they hear mentioned. They apply to doctors, to charlatans, to druggists, to quacks, in order to have the disease explained to them, and to obtain remedies, which they generally take with avidity." He estimates that two patients out of every hundred are admitted at Ghent, in consequence of this condition—of course, in an advanced stage.

On this subject Esquirol observes, "How numerous are the cases of melancholy which have succeeded hypochondriasis. How many instances of melancholy arise from chronic diseases, and especially, from lesions of the abdominal viscera. Hence we give to these affections the appellation of *hypochondriacal melancholy*."[3]

[1] "Leçons Orales," vol. i, p. 125.

[2] Op. cit. vol. i, p. 119.

[3] Esquirol, Op. cit. p. 218.

To comprehend clearly what relation hypochondriasis bears to melancholy, and the distinction which is to be drawn between the former as employed in its loose, popular signification, and those closely allied forms of indisputable mental disease now under consideration, it will be convenient to consider the symptoms of hypochondriasis, and the sense in which the word has been employed.

Authors have divided hypochondriasis into three stages; the following are, for the most part, adopted by M. Dubois, in his work specially devoted to the investigation of this disorder.[1]

1. Concentration of all the patient's attention upon his own maladies. Mental disturbance, excited by the most trifling sensations. Curable.

2. Anxiety of mind increased; and constant fear of death harasses the patient. If the digestive organs are more particularly the seat of complaint, he suffers from gastralgia, constipation, dysphagia, &c.; if the organs of circulation, palpitation, dyspnœa, throbbings of the arteries; if the sensations are general, inertia, languor, sweats, and flying pains. Often, also, the patient has special delusions and illusions respecting his physical condition. Recovery possible.

3. Aggravation of all the symptoms, chronic inflammations of various viscera, and structural changes, especially of the digestive system. (*Sœpissimè cum viscerum abdominalium disorganisationibus conjunctum.* Richter.) Next, in frequency, are affections of the thoracic organs. Symptoms sufficiently decided to make it certain, that there are serious organic lesions. Recovery almost hopeless. *Tunc prognosis quemadmodum in morbo feré semper materiali organico, sœpissimè infausta.* (Jahn, 196. Haase, 293.)

The division into the preceding stages is somewhat arbitrary; the first and second may, however, be conveniently distinguished from the third, for it is important that the student should remember, that hypochondriasis may be associated with actual and fatal diseases, however much the sensations may be exaggerated by the patient. On clearly distinguishing between these stages of the disorder—that in which there is, and that in which there is not, organic disease—his success in prognosis will depend.

Hypochondriasis is thus graphically described by Sydenham. "Nor are the unhappy sufferers from this disease, affected and shaken in body only—shaken so, as like a ruined building to appear upon the eve of falling—but their mind is sickened more than the

[1] "Histoire Philosophique," par M. Dubois, p. 291.

body. An incurable despair is so thoroughly the nature of the disease, that the very slightest word of hope creates anger. The patients believe that they have to suffer all the evils that can befall humanity; all the troubles that the world can supply. They have melancholy forebodings. They brood over trifles, cherishing them in their anxious and unquiet bosoms. Fear, anger, jealousy, suspicion, and the worst passions of the mind, arise without cause. Joy, hope, and cheerfulness, if they find place at all in their spirits, find it at intervals, 'few and far between,' and then take leave quickly. In these, as in the painful feelings, there is no moderation. All is caprice. They love, without measure, those whom they will soon hate without reason. Now they will do this—now that; ever receding from their purpose. That which the Roman orator remarks upon the superstitious, squares with the behavior of the melancholy; 'sleep is naturally the refuge from all labor and anxiety; from the sleep of the superstitious, however, cares and fears originate.' So, also, here. All that they see in their dreams, are funerals and shadows of departed friends. Thus, they are racked both in mind and body, even as if life were a purgatory, wherein they expiated and paid the penalty of crimes committed in a previous state. In all this, it is neither the maniac nor the madman that we write about,—saving and excepting the hallucinations aforesaid; those who thus suffer, are persons of prudent judgment,—persons who, in the profundity of their meditations and the wisdom of their speech, far surpass those whose minds have never been excited by such stimuli. Hence, it is not without reason that Aristotle has observed, that melancholy men are the men of the greatest genius."[1]

Dr. Watson observes, "One of the worst concomitants of dyspepsia is, that peculiar state of the mind to which I just now alluded, under the name of *hypochondriasis*. This is, in truth, a species of insanity."[2]

A reference to these descriptions of hypochondriasis will show how closely the symptoms *essential* to the disease, border on insanity; and how some of those enumerated by authors, as of frequent occurrence, are inseparable from unsoundness of mind. Thus, we have "often special delusions and illusions regarding the patient's physical condition," "an incurable despair," &c. &c. Hence it is evident that authors have described, under the same name, a disease which,

[1] Sydenham's Epistle Dedicatory, section 75.

[2] "Principles and Practice of Physic," vol ii, p. 449.

according as it assumes a mild or a severe form, may present very different aspects when viewed from a medico-legal stand-point; and which, in its former phase, may be regarded as simple hypochondriasis; but which, in the latter, may properly be termed hypochondriacal melancholy; or melancholy, the prominent symptoms of which are of a hypochondriacal nature. To ascertain, in particular cases, when the one begins and the other ends, is doubtless often a problem, the solution of which will tax all the acuteness of the psychologist; but the difficulty is not perhaps greater than that of deciding in some cases, where what is popularly understood as melancholy ends, and the genuine melancholia of psychologists, begins.[1]

Hypochondriasis may certainly exist with this latter, and of course melancholia may be present without hypochondriasis; but the two are frequently combined; and for this combined morbid condition, we do not know that there is any better phrase than hypochondriacal melancholy. In simple hypochondriasis, the patient fears, without any sufficient reason, that he will soon die in consequence of his supposed complaints; but when insanity more decidedly supervenes, he fears that he will be poisoned, or have his life terminated by other violent means. Again, in simple hypochondriasis, the patient exaggerates the importance of a trifling, but probably an actual, ailment. When, however, there is well-marked cerebro-mental disease, he will invent the most absurd and impossible maladies that can be conceived, and become possessed with delusions which will leave no doubt as to his insanity.

Thus a patient, to whose case we shall shortly refer, gravely attributed the eructations from which he suffered, to the three frogs mentioned in the Revelation of St. John.

While, however, as in this instance, the character and grossness of the patient's conviction will lead us to decide upon his insanity; in others, this opinion may be formed from collateral circumstances. Thus, it may happen that, in two cases, the error under which the patient labors will be precisely the same, and yet we may be justified in arriving at the conclusion, that in the one, the false conviction is, and in the other it is not, the result of cerebral disease; this opinion being formed independently of the character of the delusion, from a consideration of various facts, proving the existence of cerebro-mental disorder.

[1] The subject is more fully treated of by the author in the *Asylum Journal of Mental Science*, January, 1857.

The case of Buranelli, who was executed for murder in 1855, was a remarkable illustration of the ill-defined boundary line which often separates these affections, and of the difficulty which exists when this occurs, and when the case involves the question of criminal responsibility, of deciding upon the existence of cerebro-mental disease. The medical evidence given at this trial may, in connection with this subject, be advantageously read in the Journal of Psychological Medicine, July, 1855.

M. Michèa, who has written a treatise on hypochondriasis, concludes, that this affection must be regarded as without the pale of insanity, so long as the depression of mind is not the consequence of a delusion (*idée fixe*), so long as it has not for its exclusive object an extreme fear of death, and so long as it yields promptly to consolations offered, and to reason.

Many of the observations now made in regard to the relation which hypochondriasis, in a simple form, bears to hypochondriasis complicated with decided cerebro-mental disease, apply to hysteria when regarded from the same point of view. Hysteria is not insanity. But there is a form of mental disease in which aggravated hysteria constitutes a prominent symptom; and which, except in degree, can with difficulty be distinguished, in some cases, from simple hysteria.

It may here be observed, that hypochondriasis and hysteria have been regarded as identical diseases by Piso, Hygmore, Sylvius, Sydenham, Boerhaave, Van-Swieten, Lorry, Tissot, and other medical writers.[1] They have been distinguished, however, by Celsus, Paulus Æginéta, Stahl, Cullen, Pinel, Villermay, Georget, and others; and there are, undoubtedly, many distinguishing signs. Thus, while hypochondriasis affects both sexes, but principally the male, hysteria affects the female sex almost exclusively; while the mode of invasion of the one is slow and gradual, that of the other is characterized by sudden attacks; while the former is marked by the symptoms already described, there is usually present in the latter, the globus hystericus, a facial expression better known than described, and attacks of partial or complete unconsciousness, convulsions, spasms, and even lock-jaw.

Some remarkable instances are on record, in which intense mental emotion has appeared to be followed by changes in particular structures, in relation to which the emotion was excited; and which would seem to suggest the probable course which some cases, at least, of hysteria and hypochondriasis, may have taken. As some of these

[1] Dubois, Op. cit. p. 336.

may seem too remarkable to be easily credited, we will refer to a case well known to ourselves,—that of a highly respectable and most intelligent lady, in which this phenomenon was exhibited. This lady was one day walking past a public institution, and observed a child, in whom she was particularly interested, coming out through an iron gate. She saw that he let go the gate after opening it, and that it seemed likely to close upon him, and concluded that it would do so with such force as to crush his ankle; however, this did not happen. "It was impossible," says she, "by word or act, to be quick enough to meet the supposed emergency; and, in fact, I found I could not move, for such intense pain came on the ankle corresponding to the one which I thought the boy would have injured, that I could only put my hand on it to lessen its extreme painfulness. I am sure I did not move, so as to strain or sprain it. The walk home—a distance of about a quarter of a mile—was very laborious, and, on taking off my stocking, I found a circle round the ankle, as if it had been painted with red-currant juice, with a large spot of the same on the outer part. By morning, the whole foot was inflamed, and I was a prisoner to my bed for many days."

Now, if, as in this instance, a powerful emotion, directed into a certain channel, can result in such marked physical changes, without the agency of any local cause, is it not highly probable that, in some instances, the firm conviction of an individual (it may, or may not be, the consequence of cerebral disease), that he has, or is about to have, some particular disorder, and the constantly dwelling upon and dreading it, may produce, by some mysterious power, the very disorder upon which his apprehensions are concentrated?

Melancholy may be complicated with many other delusions, besides those we have considered in connection with hypochondriasis. Some of these have unavoidably attracted our attention when speaking of delusional insanity. Many insane persons have hallucinations, and very definite delusions of a gloomy character, in regard to what is going to happen to them. Doubtless, in the large majority of cases, the delusion derives its tone entirely from the disorder of the affective faculties. Be this, however, as it may, the patient no longer suffers from simple melancholia; the disease is compound; the integrity of the understanding is impaired.

Religious melancholy (*melancolie religieuse*, *monomanie religieuse* of French writers) may, or may not, be associated with disturbance of the intellectual faculties. It so frequently is so, that it may most

properly be considered in this place. But, it may be well to observe, that Dr. Prichard draws from thence some of his illustrations of "moral insanity."

Many patients become victims to the most gloomy fancies, and the conscience becomes so morbidly acute, that

> "Night-riding incubi
> Troubling the fantasy,
> All dire illusions
> Causing confusions;
> Figments heretical,
> Scruples fantastical,
> Doubts diabolical,"—

are incessantly presented to the mind, and life is rendered intolerable by perpetual misgivings as to the propriety of the most trifling circumstances; or, the patient may be unceasingly engaged in devotional exercises. An Irish priest in the Bicêtre kneeled so constantly, that his knees were almost completely anchylosed, the skin also becoming as tough as leather.

Plutarch has given a graphic sketch of the condition of those laboring under religious melancholia in his day, or the superstitious (δεισιδαίμονίαι), as he terms them. It would be difficult to employ more appropriate language for the present purpose. "To such a man, every little evil is magnified by the scaring spectres of his anxiety. He looks on himself as a man whom the gods hate and pursue with their anger. A far worse lot is before him; he dares not employ any means of averting or of remedying the evil, lest he be found fighting against the gods. The physician, the consoling friend, are driven away. 'Leave me,' says the wretched man,—'me, the impious, the accursed, hated of the gods, to suffer my punishment.' He sits out of doors, wrapped in sackcloth or in filthy rags. Ever and anon he rolls himself, naked, in the dirt, confessing aloud this and that sin. He has eaten or drunk something wrong; he has gone some way or other which the Divine Being did not approve of. The festivals in honor of the gods give no pleasure to him, but fill him rather with fear and affright. He proves, in his own case, the saying of Pythagoras to be false—that we are happiest when we approach the gods, for it is just then that he is most wretched. Temples and altars are places of refuge for the persecuted; but where all others find deliverance from their fears, there this wretched man most fears and trembles. Asleep or awake, he is haunted alike by the spectres

of his anxiety. Awake, he makes no use of his reason; and asleep, he enjoys no respite from his alarms. His reason always slumbers; his fears are always awake. Nowhere can he find an escape from his imaginary terrors."

The following description from Dr. Conolly, while referring to melancholia in general, has special reference to the religious variety. "The intellect," he observes, "is usually clear and composed; unable only to resist the morbid depression, or the hopeless delusions that spring from and feed it. The elevating, adorning, and comforting power of the imagination, seems to be extinct; no hope points to the future, or lends enchantment to the view. They accuse themselves, without any truth, of having disgraced their families, or having ruined them, or having destroyed their children; or of having sinned against the Holy Ghost, or lost God's favor forever; or assert that eternal punishment or annihilation (which they consider a worse doom than hell), is to be their portion."

We may illustrate this form of insanity by an interesting case, in which the religious depression, and the delusions springing out of it, were intimately blended together. The patient, a gentleman of highly cultivated mind (with hereditary predisposition, and the father of three sons more or less deranged), believed himself doomed, by an irrevocable decree, to eternal flames. He imagined that an entire change had taken place in the state of mankind; that all, except himself, had entered upon a state of bliss, but that he was reserved for everlasting torments, as an atonement for the sins of the whole world. He stated, that he had heretofore entertained the same views as others in regard to the character of Jesus Christ, namely, that His sufferings had obtained a general atonement; but that he had now found that Christ was a triumphant, *he* a suffering Saviour. He now perceived that the Scriptures, and many other books, were full of predictions respecting himself; that the accounts of Cain, Esau, &c., although historically true, had a relation to him; that he was the son of perdition, the scape-goat, the man of sin, spoken of in the Bible; that, in fact, both the Old and New Testament were full of predictions respecting him. When dissent to such views was expressed, the patient would respond, "Oh, I know you will deny it; you are bound to deceive me. I do not mean voluntarily, but from the fictitious state of your own existence. You are only the *corpse*, the remains of yourself. It is, to be sure, idle to talk of my state to you; but the heart that is full, seeks, though in vain, to vent

itself." When the individual, thus addressed, assured him that he had as firm a conviction of his existence in the same state of body that he had always been in, as he could possibly have respecting the mysterious change which he supposed we had all undergone; and that, as he (the patient) was quite *singular* in his opinion, he must allow, that there was the strongest possible evidence against the correctness of his views: "I would admit it," replied he, "if there were another human being in the world but myself; but, alas! all the appearances of existence in persons and things around me are fictitious; all are enjoying felicity but myself. I only am reserved to endless torment. Everything has changed its aspect. Objects around me are no longer seen in perspective, but appear flat, and raised one above another, like a Chinese drawing. Spring will no more return." When a confident belief was expressed that Spring would return, and a hope that it would remove his apprehensions, "They are not apprehensions," he replied, with earnestness; "they are *convictions;* but if Spring does return, and resume its usual appearance (I don't mean a few crocuses and snowdrops), I will acknowledge myself in error." At the close of an interview with this patient, who was not then in an asylum, "It may seem strange," he said, "to ask you to visit me again, but I shall be glad to see you; for even the shadows, the resemblances of those we know, are pleasant amongst strangers."

The power of self-control was singularly illustrated by a circumstance which occurred in the course of this case. At the very time when he could not restrain the expression of his gloomy feelings before his wife, and could not attend in the least to his family affairs, he paid a visit to the poet Southey. Subsequently, the poet, who was cognizant of his guest's mental infirmities, expressed to the patient's wife the satisfaction he experienced in seeing him so well; and added, he never knew him reason more clearly. On the wife repeating this to her husband, he exclaimed, "Why, you know, I could not think of showing my weakness before *him*." The unintentional *confession* of his weakness, is also an interesting feature in this reply.

The inquiry into the connection between religion in its various forms, regarded as a *cause*,[1] and the production of religious melan-

[1] At an early period of his observation—before the spread of infidel principles in France—Pinel calculated that about one-fourth of the cases of insanity with the causes of which he was acquainted, were due to excessive religious enthusiasm; while, at a

choly, is one of great interest, and opens a wide field for observation; but we shall content ourselves with quoting a few excellent remarks from an able writer upon this subject. "If," observes Dr. Combe, "the best Christian be he, who, in meekness, humility, and sincerity, places his trust in God, and seeks to fulfil all His commandments; then he who exhausts his soul in devotion and in prayer, and at the same time finds no leisure, or no inclination for attending to the active duties of his station, and who, so far from arriving at happiness or peace of mind here, becomes every day the further estranged from them, and finds himself at last involved in disease and despair, cannot be held as a follower of Christ, but must rather be regarded as the follower of a phantom assuming the aspect of religion. When insanity attacks the latter, it is obviously not religion that is its cause, it is only the abuse of certain feelings, the regulated activity of which, is necessary to the right exercise of religion; and against which abuse, a sense of true religion would, in fact, have been the most powerful protection. And the great benefit to be derived from knowing this, is, that whenever we shall meet with such a blind or misdirected excess of our best feelings in a constitutionally nervous or hereditarily predisposed subject, instead of encouraging its exuberance, as at present we often do, by yielding it our respect and admiration, and even attempting to imitate its intensity; we shall use every effort to temper the excess, to inculcate sounder views, and to point out the inseparable connection which the Creator has established between the true dictates of religion and the practical duties of life, which it is part of His purpose in sending us here to fulfil; a conviction, it may not be superfluous to add, which it is impossible to portray or enforce more strongly than is done in the lives both of the Founder of Christianity and of His disciples."[1]

The exciting cause of religious melancholia is sometimes to be traced to the fiery denunciations of a well-meaning but injudicious preacher. It is remarkable that, even in pagan times, Marcus Aurelius made a law condemning to banishment those "*who do anything by which men's excitable minds are alarmed by a superstitious fear of the Deity.*" If the modern authors of such fearful results are

later period, Esquirol found that, in upwards of 600 lunatics in the Salpêtrière, this was the cause in only eight cases, and, in 337 admitted into his private asylum, this was supposed to be the cause in only one instance. In the place of religious, political excitement was a fruitful cause of insanity.

[1] "Obs. on Mental Derangement," 1831, p. 191.

not themselves to suffer banishment, it is heartily to be wished that the *practice* were entirely banished from the pulpit.

Melancholia, as has previously been stated, may be *acute* or *chronic;* and this, of course, may be the case, whether it be simple or complex. The term acute as applied to dementia, has reference in general, rather to its duration than to its character; just as we often speak of acute rheumatism (the symptoms of which may be mild), to distinguish it from the chronic form. When applied to melancholia, however, the term conveys, in most instances, a correct impression of its character; and, when exhibited in this active phase, it is truly distressing to witness.

The writer has now in his mind a case very illustrative of this condition; and he mentions it here, not as in any way remarkable, but simply as a type of the class. The patient, possessed of good general ability, and a skilful artist, would sit crouched for hours, covering his face with his hands, bitterly bemoaning his lot; at other times silent, with the exception of groans and sighs. His suffering appeared to be most acute. His expression was intensely sad; the facial muscles fixed, as if by spasm, and altogether expressive of concentrated grief. But, while exquisitely sensitive to his condition, he never wept; a reference to the causes of his dejection never caused a tear, but only an obstinate rejection of all proffered consolation. This complete absorption in grief, tyrannized over rather than extinguished, his purely intellectual faculties. His power of recollection was as acute as ever, but he recalled his sorrows, and not the pleasures of memory. The comparing faculty was in action, but only engaged itself upon contrasting his former happy, with his present miserable condition. His judgment was still good, except when he judged himself to have more cause for grief than any one else in the world; and as to his reasoning powers in general, it was a case in which, to a very great extent, the patient reasoned correctly enough, only from false premises. His perceptive faculties were sufficiently quick, but he perceived only the dark side of his case. His imagination was but too active in painting all the sufferings which awaited him. In short, he was full of fears, devoid of hope, and seemed as if he "would not if he could be gay." This patient died of phthisis, and, till within a few months of his death, manifested the same acute symptoms of melancholia.

Chronic melancholia is but too frequently the sequence of the acute condition. It often alternates with mania, and its tendency to

pass into dementia has already been noticed. The disorder may also be decidedly intermittent.

All the varieties of melancholy are disposed to be remittent; and it is generally observed, that the remission takes place in the latter part of the day, the patient suffering the most acutely early in the morning, and for some hours subsequently. This circumstance affords a useful practical hint, in those cases which have a suicidal tendency.

Esquirol investigated and ascertained the causes of melancholia in 482 cases. Now, if we except hereditary predisposition (110 in 482), we find that there were 207 produced by direct moral causes, and only 165 by physical. The former were: domestic troubles, 60; reverses of fortune and consequent misery, 48; disappointed affection, 42; jealousy, 8; fright, 19; wounded self-love, 12; anger, 18; total—207.

Inasmuch as the causes of melancholia are predisposing or remote, proximate, or exciting, these distinctions cannot be (and the above writer fully asserts it) applied with precision to this or that cause; for it often happens, that those causes which we call predisposing are exciting, and *vice versâ*.

"The exciting causes alone seem to have been sufficient to provoke the malady; usually, however, there is a concurrence of the two orders of causes; a first event predisposes to the disease, a second causes it to break forth."

The *physical* causes, in the above 150 cases, were distributed as follows: suppression of the catamenia, 25; critical period of life, 40; consequences of parturition, 35; fall upon the head, 10; libertinism, &c., 36; intemperance, 19. Total, 165. These statistics must, however, be cautiously received, and not valued at more than they are worth. For example, "libertinism," although classed under physical causes, cannot be separated fully from the thousand moral influences which a course of dissipation involves. Nor, again, can "the reverses of fortune, and its subsequent misery," referred to the moral causes, be entirely separated from the bad diet or starvation, which, of themselves, interfere with the nutrition and vigorous action of the cerebral organs.

Dr. Conolly observes, that it is difficult to avoid concluding, as cases of melancholia are so frequently met with, about the period of the cessation of the catamenia, that the cerebral disturbance is generally connected with some morbid state of the uterus. Melancholia

will also occur, "after several hemorrhagic attacks, in which there is a constant sense of weight in the situation of the colon, with pain apparently in the sigmoid flexure, and occasional hemorrhage from the bowels. There is, in such cases, severe mental despondency, and inability to decide upon anything, and a loss of all hope and joy, and religious confidence. Spasms of the lower extremities, and hysterical lameness, sometimes become complicated with this state. In some such cases the colon is partially displaced; although, in the few examples of this displacement observed at Hanwell, the mental symptoms have not been uniform."

Dr. Conolly's conclusion is, that, "remembering the same invasion of despondency lasting for a year or two, is not at all uncommon in men as well as women, when between forty and fifty years of age, this state would seem more probably to depend upon some general alteration in the circulation, or some climacteric change in the brain itself, at that time of life when both physical and mental commotion, in some shape or other, seem peculiarly incidental to the human constitution."

In regard to the influence of the seasons, it was observed at the Salpêtrière, that the admission of melancholiacs was greatest during the months of May, June, July, and August; and in respect to the influence of age, it was found, at the same institution, that melancholy is frequent between the age of twenty-five and thirty-five; that after this period it diminishes in frequency, and rarely appears after the age of fifty-five. The same result was shown by statistics drawn from the wealthier classes.

From melancholia, we may turn to the consideration of the *opposite* condition of the same group of the affective faculties, a condition to which the terms *Amenomania* and *Chæromania* (χαιρω, to rejoice) have been applied by French writers.

There is, very generally, so intimate a connection between those examples of delusional insanity, in which the delusion is of a gay and elevated character, and those exalted states of the feeling which we proceed to consider, that the two are rarely separated. They may be so, however; and it therefore happens, of necessity, that in the description of the various forms of mental disorder, we shall come upon the same phenomena, when engaged on very different forms of insanity. Thus, when our attention was specially directed to delusions, it was impossible to avoid a reference to those cases in which the patient believes himself a king, or the Deity: and, in the

consideration of the present division, we necessarily meet with cases in which the exalted state of the emotions led to these delusions. The student cannot be too often reminded of the close relation which thus subsists between false conceptions, and a morbid condition of the sentiments; of which latter, the former may only be symptomatic. He must consider, in each particular case, which is primary, and which is secondary, in the order of morbid mental phenomena. For it is needful that he should never forget, that convenient and necessary as are classifications and divisions, for the purpose of facilitating the comprehension of the multiform phases of insanity, which, without them, would present a more rude and undigested heap than is at present the case, Nature herself cannot be so precisely limited; and that, in her book, as opened to him in the wards of an asylum, he must be prepared to find a combination, a blending, if not a confusion, of the elementary forms, which it has been our endeavor to illustrate.

But, while this is true, it may be doubted whether he will be more perplexed and disappointed in this discovery, than when, after mastering the typical forms of disease in general, as presented to him in his medical text-book, he goes to the bedside of a patient, and in looking for the presence of every symptom as detailed under the appropriate head, he discovers that the disease is provokingly different from (indeed not half so good as) its description. But a more enlarged experience will teach him to apportion to his teachers a juster and a higher meed of praise. He will then employ their writings as a help, an *index rerum*, but not as a substitute for individual observation of disease, as it is actually to be seen in nature. This individual labor, no description or classification of diseases, ever did, ever will, or ever ought to supersede. Rhases, ten centuries ago, averred that "he who does not form in his mind a clear conception of the nature of diseases before he enters the chambers of the sick, will find that, from ignorance and misapprehension, he will confound one complaint with another—for this obvious reason, that he has come to his task unprepared and uninstructed."

When Esquirol restricted the term, melancholia, to its present popular signification, he applied that of monomania, at least the affective class of monomanias, to examples of exaltation of the sentiments. Thus he observes, "The melancholiac fastens upon himself all his thoughts, all his affections; is egotistical, and lives *within* himself. In monomania, on the contrary, the sensibility is agreeably

excited. The gay and expansive passions react upon the understanding and the will. The monomaniac lives *without* himself, and diffuses among others the excess of his emotions. The physiognomy of the monomaniac is animated, changeful, pleasant; the eyes are lively and brilliant. The monomaniac is gay, petulant, rash, and audacious. The melancholiac is sorrowful, calm, diffident, and fearful. The former takes a great deal of exercise; is talkative, blustering, pertinacious, and easily irritated; nothing appears to oppose the free exercise of all his functions. The latter opposes every movement; dissembles, excuses or accuses himself; the functions are accomplished painfully and slowly. . . . Such are the essential differences between melancholia and monomania, so clearly pointed out that we need not confound these two pathological conditions, nor impose upon them the same name, if we desire precision in medical language."

It is customary to speak of a monomania of pride, of vanity, &c.; and French authors have *la monomanie vaniteuse*, or *Narcisse;* and *la monomanie ambitieuse*, or *orgueilleuse*, or *des riches*, or *des grandeurs*.

The former is described by Guislain in the following terms: "It ordinarily manifests itself under the form of a tranquil mania, which exhibits the patient infatuated with his beauty, his grace, his mind, his dress, his talents, titles, and birth. These lunatics love to see themselves in the glass, and to deck themselves out; sometimes they display an astonishing art in varying their attire, although their wardrobe may be very scanty; they invent new fashions; they arrange their hair tastefully; and they study to set themselves off to advantage, by attention to their toilet, person, and figure." We are acquainted with such a case at present; a patient who has no very decided delusion, but who is influenced by the most exalted notions respecting himself: his every gesture, and expression, and conversation, display his diseased self-love, his "monomanie vaniteuse," associated, however, with great intelligence, and an extent of knowledge, of which many who are sane might be justly proud. He constantly boasts of his "descent from one of the best families in the United Kingdom," "a family of note," and that his family have in their possession "three different coats of arms, finely emblazoned on parchment." His "maternal blood is equally good." He is intensely sensitive to everything which can, by any possibility, be construed into a slight of himself; and the omission of any of the most trivial accustomed marks of respect, is tortured into intentional incivility.

The studiously arranged dress, the self-satisfied attitude, and the buoyant step of this patient, are all in keeping with the sentiments which are present in such morbid excess.

Not unfrequently, however, these several forms are confounded with general mania, when, from their partial character, and from the small degree in which the succession of ideas is confused, they may properly be distinguished from genuine mania. Esquirol complained of this confusion. "Writers have not observed the difference between monomania and mania; because of the excitement, susceptibility, and fury, of some monomaniacs." "Amongst monomaniacs, the passions are gay and expansive; enjoying a sense of perfect health, of augmented muscular power, and of a general well-being, this class of patients seize upon the cheerful side of everything; satisfied with themselves, they are content with others. They are happy, joyous, and communicative. They sing, laugh, and dance; controlled by vanity and self-love, they delight in their own vain-glorious convictions —in their thoughts of grandeur, power, and wealth. They are active, petulant, inexhaustible in their loquacity, and speaking constantly of their felicity. They are susceptible and irritable; their impressions are vivid, their affections energetic, their determinations violent; disliking opposition and restraint, they easily become angry, and even furious."

But, while thus distinguishing monomania from melancholia, on the one hand, and mania on the other, a caution may be entered against falling into the error of supposing that a strictly speaking monomaniacal state is of frequent occurrence; on the contrary, it is exceedingly rare. Foville has stated, that his experience only afforded two or three examples of it. We think that Esquirol's employment of the term monomania, in a gay or exalted condition of the sentiments, was unfortunate; and that his own description of the mental condition so affected, is in opposition to any legitimate use that can be made of the word. The man who is "gay, petulant, rash, and audacious," can scarcely be called, with any propriety of language, a monomaniac. Of his three varieties of monomania—intellectual, affective, and instinctive—we think that the first and third can alone lay claim to anything like accuracy of definition. The term must not, however, in even these cases, be used in an exclusive sense; all that need be implied, as Baillarger has remarked, is, that a marked predominance of certain feelings or ideas exists, in the magic circle of which the individual is unmistakably mad, while without it he is

as rational as most people. If more than this be looked for, the student will often think he has discovered polymania, when he has been told that the patient offers an example of monomania.

Guislain estimates the frequency of the monomania of pride at one in 300 admissions, exclusive of cases of general paralysis, with which extravagant ideas respecting wealth are so frequently associated.

Religious excitement is less common than the opposite condition, —that of religious melancholy or depression. It not unfrequently succeeds it. It has been estimated that only one per cent. of cases of excitement assume this form. It includes the *theomania* of Esquirol.

The observations made, when speaking of melancholia in regard to the relation it bears to the "moral insanity" of Dr. Prichard, apply equally here; and we find this writer giving the following excellent description of religious excitement, as illustrative of disorder of the moral faculties without lesion of the intelligence: "A person," says he, "who has long suffered under a sense of condemnation and abandonment, when all the springs of hope and comfort have appeared to be dried up, and nothing has been, for a long time, felt to mitigate the gloom and sorrow of the present time, and the dark and fearful anticipations of futurity, has passed all at once from one extreme to the other; his feelings have become, of a sudden, entirely changed; he has a sense of lively joy in contemplating the designs of Providence towards him, amounting sometimes to rapture and ecstasy. Such a change has been hailed by the relations of the individual thus affected, when they have happened to be pious and devout persons, as a happy transition from a state of religious destitution, to one of acceptance and mental peace; but the strain of excitement is too high, the expressions of happiness too ecstatic to be long mistaken: signs of pride and haughtiness are betrayed, and of a violent and boisterous deportment, which are quite unlike the effects of a religious influence, and soon unfold the real nature of the case; or it is clearly displayed by the selfishness, the want of natural affection, the variableness of spirits, the irregular mental habits of the individual. In the cases to which I have now referred, there has been no erroneous fact impressed upon the understanding —no illusion or belief of a particular message, or sentence of condemnation or acceptance specifically revealed; a disorder so characterized would not fall under the head of moral insanity."[1]

[1] "Treatise on Insanity," p. 20.

Most authors, and especially Heinroth, have referred to this form of mental disorder, those characters of antiquity who professed to foretell future events, as the Pythia at Delphi, Cassandra, &c. This subject, we have already considered, in the first chapter of this work.

Some of the founders of religious sects may, with more probability, be regarded as the subjects of religious insanity; and have, in some instances, been themselves the dupes, when censured for having duped their credulous followers. Irving, in modern times, is a familiar illustration of the class. To what extent Mahomet was also an example, offers an inquiry of great interest, but cannot, in this place, be discussed. We may, therefore, refer to a work entitled, *Mahomet consideré comme aliené, par le docteur Beaux*, in a report to the Royal Medical Academy, by Dr. Renauldin.

Section V.—*Of Emotional Insanity.*

In the tabular statement of the Forms of Mental Disease given at page 100, we have included "Melancholia without delusion" under the division of Emotional Insanity. In our description, we have found it most convenient to describe it, when treating of melancholia in general. The form of mental disorder next in order is "Mania, with general extravagance of conduct;" or, the moral insanity of Dr. Prichard. To this subject, we are about to direct our attention.

That intellectual power, and the perception of moral truths, do not necessarily exist in the same degree in the same person; that they do not always develop themselves *pari passu*, are propositions which, as the result of common observation, obtain general acceptance. But, that there should be anything like congenital defect of the moral sense (*anomia* of Dr. Rush), in conjunction with intellectual powers not strikingly deficient or even of superior quality, is a proposition not so generally recognized, nor so easily established. It is obviously one which must be carefully considered in the description of mental diseases. With its medico-legal bearing we are not now concerned.

Many analogies subsist between the moral and intellectual faculties, and, in many respects, they may be observed to be under the influence of the same laws. The sentiments, no less than the intellect, are indicated by, or associated with, certain temperaments and

physical signs ; thus, good nature usually coexists with a sleek and fat habit of body. Virtuous and vicious tendencies would often appear to be hereditary; or, as congenital, are displayed from the earliest infancy in children subjected to the same educational influences. The moral faculties may be either excited or depressed by disease. "Who has not seen," asks Dr. Rush, "instances of patients in acute diseases discovering degrees of benevolence and integrity that were not natural to them in the ordinary course of their lives?" Dreams affect the moral faculties as well as the intellect; under their influence, we are benevolent, devotional, passionate, and affectionate, as well as imaginative and talkative.

Ray, after treating of mania as it affects the intellectual powers, proceeds to observe, that a more serious error can scarcely be committed than that of limiting its influence to them. "It will not be denied," he adds, "that the propensities and sentiments are also integral portions of our mental constitution; and no enlightened physiologist can doubt that their manifestations are dependent on the cerebral organism. Here, then, we have the only essential condition of insanity,—a material structure connected with mental manifestations; and, until it is satisfactorily proved that this structure enjoys a perfect immunity from morbid action, we are bound to believe that it is liable to disease, and, consequently, that the affective as well as the intellectual faculties are subject to derangement."[1] This writer cites from Hoffbauer the following unqualified assertion to the same effect: "It is clear," he says, "that mania may exist uncomplicated with mental delusion. It is, in fact, only a kind of moral exaltation (*tollheit*), a state in which the reason has lost its empire over the passions, and the actions by which they are manifested, to such a degree, that the individual can neither repress the former nor abstain from the latter. It does not follow that he may not be in possession of his senses, and even his usual intelligence, since, in order to resist the impulses of passion, it is not sufficient that the reason should impart its counsels; he must have the power to obey them."

One of the most striking features of insanity in general, and the strongest proof of the presence of any of its forms, is the change which takes place in the individual's character and habits. To cases of congenital deficiency of the intellect, however, whether altogether idiotic or only partially imbecile, it is at once manifest that this test does not, and cannot, apply. In such instances, the

[1] "Jurisprudence of Insanity," p. 163.

natural character is itself in an abnormal condition, and ceases to be the standard of health.

This observation applies with equal force to the matter now under consideration. If there be, congenitally, a condition of the moral sense analogous to imbecility, it is impossible to apply, in such instances, the test referred to—a test which is alone applicable to mental disease when acquired. We have seen several well-marked examples of lunatics, who, on arriving at manhood, were placed under restraint, because age brought with it a certain legal responsibility, the absence of which, in early life, rendered the patients' friends willing to content themselves with their own surveillance. In such cases, parents assert that the child, the boy, and the young man, alike presented the symptoms of an inert moral nature, and of an activity of the animal propensities, over which threats, rewards, or punishments exercised a very trifling control. There was formerly a patient at the Richmond Lunatic Asylum, Dublin, whose case illustrates this class. We are informed, that "he exhibited a total want of moral feeling and principle, yet possessed considerable intelligence, ingenuity, and plausibility." "He has never," says Dr. Crawford, "been different from what he now is; he has never evinced the slightest mental incoherence on any one point, nor any kind of hallucination. He appears, however, so totally callous with regard to every moral principle and feeling, so thoroughly unconscious of ever having done anything wrong, so completely destitute of all sense of shame or remorse, when reproved for his vices or crimes, and has proved himself so utterly incorrigible throughout life, that it is almost certain, that any jury before whom he might be brought, would satisfy their doubts by returning him insane." There was admitted into the New York State Asylum, a patient, who is described as being the "exact counterpart" of the preceding case. "He has been," says Dr. Benedict, "a scourge to his family from childhood; was sent to the army to get rid of him, from which he was turned out as an incorrigible villain—always fighting and getting drunk, for which he was repeatedly flogged. By seclusion, he becomes so savage as to render the task of entering his room and supplying his wants by no means enviable; and, when at large, he often assaults those around him. His chief employments are eating and fighting; and, although he is constantly endeavoring to get out of 'these barracks,' he seems to have no particular object in view but the more free indulgence of these propensities. In all but this one case, moral treat-

ment alone has accomplished our object, but on him little moral influence can be exerted. By the aid of nauseating remedies, frequently administered, we are enabled, in some degree, to control him. Blisters, and setons to the back of his neck, are now being tried."[1]

Dr. Benedict speaks of the above patient as possessed of intelligence.

A very remarkable (and, in some respects, analogous) case is reported in the *American Journal of Insanity* (Oct., 1846), of a girl, eighteen years of age, guilty of arson, and who is represented to have been destitute of moral feelings. "She possessed quick perceptions, good reflective capacity, and a large share of ideality, &c., but no human kindness had she; nothing human, indeed, but her form." She is stated to have resembled a serpent in her movements. Her skin was cold—circulation very slow; her skin was also "spotted like a common species of snake."

Dr. Prichard speaks of a youth,[2] "an incorrigible thief, and addicted to falsehood and deception in every way, and apparently devoid of all perception of right or wrong. The mother of this boy was a victim to mania, or raving madness." And Dr. Prichard, although he mainly had in view cases in which the moral character underwent a change, has not entirely overlooked the class now referred to: "It seems not improbable, that many persons, wrong-headed and perverse *through life*, and singularly capricious and depraved, would afford in reality, if the matter could be ascertained, examples of moral insanity, native or *congenital*." Other examples of moral madness in early life will be found in Ray's *Medical Jurisprudence of Insanity*, p. 99, and in Esquirol's *Maladies Mentales*, tome ii, p. 115.

It must, of course, be admitted, that ordinary idiots are idiotic *morally*, as well as intellectually; but we have not yet seen sufficient evidence to prove that a condition deserving the name of moral idiocy exists, in connection with an average development of the intellectual faculties, notwithstanding the statements of some observers, whose opportunities of observation, both in regard to the insane and idiots, have been very large. Dr. Woodward, formerly physician to the State Lunatic Asylum in Massachusetts, held that, "besides a disease of the moral powers, there seems to be, in some cases, something like moral idiocy, or such an imbecile state of the moral faculties from

[1] Annual Report, 1850. [2] "On the Different Forms of Insanity," 1847, p. 157.

birth, as to make the individual irresponsible for his moral actions. The persons to whom I refer have rarely much vigor of mind, although they are by no means idiots in understanding." Dr. Davey has expressed himself very decidedly in favor of the same view, in an interesting paper in the *Association Medical Journal* (Sept. 13, 1856); and, although we hesitate to admit moral idiocy apart from lesion of the intellect, we fully grant that there may occasionally be good intellectual abilities, in association with congenitally feeble moral powers and volition.

For obvious reasons, we are prevented publishing the details of many cases of this description falling under our own observation. We may mention, however, the case of a patient admitted into an asylum at the age of seventeen, laboring under moral insanity and epilepsy. Now, here there was remarkable intellectual vigor, united with an exceedingly obtuse perception of moral responsibility. His father stated, that his character had been the same "from the cradle." At nine years of age, he endangered the life of a little boy—his playfellow; subsequently, at school, he was characterized by similar mental qualities, learning more quickly than other boys, yet committing many acts of violence. He was, consequently, obliged to leave several schools. Still, the term "moral idiocy" is scarcely appropriate.

We know of another well-marked case of peculiarity in the temper and moral disposition, which was manifested from the earliest infancy, but in which the intellectual faculties are not only equal to, but above the average. The disease was hereditary. He has been in an asylum for years.

"We have seen," says Marc, "homicidal mania manifest itself during the *first* years of life. Thus age, considered by itself, cannot be any true guide in regard to mental disorders."[1]

Dr. Hulme Williams remarks, that "as in the mental, so in the moral constitution, the most marked differences are perceptible. It requires but slight research to satisfy the inquirer, that many instances of crime are on record, and that many examples could be adduced to prove, that such an original deficiency or natural perversion of the moral faculty appertained to some individuals, as argued brutality rather than depravity of their dispositions." We presume Dr. Williams uses the term "brutality" in the sense employed by Dr. Mayo. The same writer classifies moral insanity under four heads,

[1] Marc, vol. i, p. 329.

one of which is, "Cases in which the development of the moral feelings or affections appears originally deficient." Now, if this be a form of moral insanity, it appears inconsistent to say, as this able writer says further on, of the persons who are examples of it, "their disease is *vice*."

That all forms of insanity involve disease of the brain, whether functional or organic, whether primary or only secondary to, and symptomatic of, disease in some other viscus, is a truth it has been our endeavor continually to insist upon, as their distinctive characteristic. But let us distinctly understand what we imply by the term disease. "Health," observes Dr. C. J. B. Williams, "consists in a natural and proper condition and proportion in the functions and structures of the several parts of which the body is composed. From physiology we learn that these functions and structures have to each other, and to external agents, certain relations, which are most conducive to their well-being and permanency; these constitute the condition of health. But the same knowledge also implies that function and structure may be in states not conducive to their permanency and well-being; states which disturb the due balance between the several properties or parts of the animal frame; and these states are those of *disease*."[1]

To apply these principles to our present subject, we may say that disease signifies, in any cerebro-mental affection, that such a condition is present other than health, as to cause a particular mental state, or act, of an individual. It must comprise congenital deficiency; all arrests of development occurring in infantile life; and the various diseased psycho-cerebral conditions of adult life. In some persons, there is rather a congenital proclivity to disease than actual disease itself; and in these a circumstance, which in persons *without* that proclivity would produce no result, will call into action abnormal, that is to say truly diseased, mental manifestations, although they may be only functional, and subside when the exciting cause is removed. It is to analogous cases that the above writer alludes, when he observes, that "disorder may arise from an undue proportion or predominance of a function."

Should it be said that disease involves a "changed condition or proportion of function or structure in one or more parts of the body," it is to be observed that this change may have taken place at a period when it would escape notice, or even during fœtal life. During the

[1] "Principles of Medicine," p. 2.

latter period, diminished nutrition of the body, or diminished nutrition of one part and increased nutrition of another, may have occurred: and thus resulted in the production of an undue proportion or predominance of a function—"hypertrophy of some textures frequently coexisting," as the eminent writer last cited observes, "with atrophy of others, perverted nutrition being often combined with excessive or defective, and several of these different changes often occurring in succession, in consequence of the operation of the same causes." There is, indeed, during fœtal life (and we may practically widen this period, and say, during that which elapses before the character is or can be observed), abundant opportunity for the influence of perverted nutrition; whether it be in the formation of cell-germs, their passage into cells, or the subsequent processes connected with the growth and organization of the tissues; or again, whether the elements of the circulating blood be in an abnormal proportion; or lastly, whether it be the mysterious but well-recognized principle, in virtue of which there is an hereditary predisposition to disease, which rules over and perverts the nutritive processes. Thus, in a case of what would probably be regarded as congenital moral imbecility, the mother of the patient was the subject of malignant disease of the uterus, during gestation. Now it is possible that this condition of the mother interfered with the proper nutrition of the cerebral tissue of the fœtus, and was one, among other causes, which contributed to the final result. Persons born with talipes, or strabismus, owe their defect to some disease of embryo life. In like manner, during the same period of existence, the brain may undergo pathological changes which induce defective moral power.

Dismissing the consideration of cases of congenital disease of the moral faculties, we may pass on to those in which this condition of mind is met with in adult life; and here the test already spoken of, may be most properly applied. The standard of mental health may then justly be sought for in the natural and habitual character of the patient. This it is which is now altered, and the symptoms by which it is rendered manifest may next be considered. Usually the change in the feelings and conduct of the patient is gradual. Frequently he is more absorbed and reserved, and on any provocation, however slight, is unreasonably irritated. He becomes suspicious, liable to attribute false motives to his friends and others, and to cast ungenerous reflections upon his nearest relatives. The husband suspects the fidelity of the wife, the wife that of the husband, without the slightest foun-

dation. The patient is observed by strangers to be morose; and, as the cloud gathers, his acquaintance become conscious, without knowing exactly why, and very probably without once supposing the man to have become, in plain English, mad, that he is, somehow or other, an altered man.

At last the storm bursts; and some act is committed of an outrageous character. He is then regarded as either insane or criminal; the former, probably, if the act does not make him decidedly amenable to the laws of his country, and his destination is the asylum; the latter, most probably, if the act has been homicidal, and he is consigned to the executioner. In other cases, an individual has been subjected to over exertion of mind, his powers overtasked, or his feelings put upon the stretch, in consequence of anxiety or unaccustomed responsibility. He then finds himself susceptible to the slightest mental emotion, loses his sleep and rest, is conscious of more or less uneasiness about the head, a sense of tension and dull aching pain, and finds himself unequal to the discharge of his usual duties. In addition to all this, he may be distressed by certain impulses and tendencies, which are alike repugnant to his reason and to the dictates of his moral nature. Often the impulse is to do violence to himself or others, or simply to break glass or articles of furniture. We know a case in which the patient was, in the first instance, strongly impressed with the desire to obtain pistols; he was astonished and perplexed with so strange and purposeless a desire.

Under such circumstances, it is no unusual thing for the patient to deliver himself up to the care of some judicious friend, or an asylum; and a happy thing it is for himself and society when such is the case.

Dr. Carpenter, regarding the subject simply as a physiologist, arrives at the same conclusion as that to which we are conducted by observation, namely, that "there may be no primary disorder of the intellectual faculties, and the insanity may essentially consist in a tendency to disordered emotional excitement, which affects the course of thought, and consequently of action, without disordering the reasoning processes in any other way than by supplying wrong materials to them. Moral insanity may, and frequently does, exist, without any disorder of the intellectual powers, or any delusion whatever."

A patient, the subject of emotional insanity, thus expressed herself to the writer: "I have my reason, but I have not the command of my feelings. Circumstances in life create feelings and prejudices which prevent my passing through life smoothly. My *intellect* is not

insane; it is my *feelings* I cannot control." It would have been impossible to have described her case more correctly.

The question naturally arises, are the physical symptoms of the morally insane such as might be looked for, if they are the subjects of a physical disease? The answer has already, to some extent, been anticipated, by the enumeration which has been made of several well-marked, premonitory symptoms. It should also be remembered that in many of the insane, in whom there is indisputable lesion of the understanding, the most careful scrutiny will fail to discover any disorder of the circulation, as indicated by the pulse and the respiration, or of the functions of secretion and excretion, as indicated by the tongue, the alvine evacuation, or the renal secretion. And, with the exception of a class of cases already referred to, it may, we believe, be safely affirmed, that among those patients whose moral nature appears to be specially invaded by disease, derangement of the physical health is almost as frequent as among those whose intellect is manifestly disordered. And the termination of cases of moral insanity in some unmistakable physical disease, as a general paralysis, will not unfrequently solve any doubt which may have been felt previously, in regard to the disease of one or more of the bodily organs.

The exceptional class thus spoken of, includes those cases of perverted moral feeling whose history extends back to the earliest infancy, and probably to congenital malformation of the brain; the proof of an abnormal physical condition in whom, is to be found in various facts which a careful inquiry into the family and particular history of the patient will elicit. But even in these cases, there is one physical disease to which the patient in a large number of instances is, or has been subject, and that is epilepsy. Nor can we forbear the expression of the belief, that convulsions in infancy are, in relation to their ultimate effects on the mind, not sufficiently recognized. Often do these pass away, and are forgotten when the dentition is accomplished which induced them; but some portion of the cerebral tissue has received an injury, which in any other tissue of the body, were its severity twofold, would be easily recovered from, but which in so delicate a tissue as the nervous,—in which the very process of repair is so hazardous to the integrity of the associated function,—permanently injures the moral or intellectual powers of the child, and is painfully perceptible as he grows up to manhood. We know a case in which a child had pertussis at three years of age, followed by symptoms of

hydrocephalus, from which she recovered; but ever after, there was a marked perversion of the moral feelings, without any failing in the perceptive faculties; and although her judgment is far from good, there is no decided lesion of the understanding. She is quick, has an excellent memory, and can acquire knowledge easily. Her parents state that, although in the abstract, she knows the difference between right and wrong, she has appeared incapable of following the former like other children. Education failed to counteract the most determined propensities to falsehood and theft, and at the age of puberty, the sexual instinct was strongly developed, and has ever since formed a prominent feature of her malady; in consequence of which she was placed in an asylum when only seventeen years of age.

Perversion of the moral sense may also occasionally be traced to accidents, followed by injury to the bodily structures; as a fall from a horse, or a blow by which the head has sustained injury. Thus, a lad of good abilities was thrown from a horse, when twelve years of age, and his head sustained much injury in consequence; the skull bearing evidence in after-life of the accident. For several months afterwards the mind was weakened, but then gradually recovered its tone; at twenty years of age, however, he suffered from melancholia, followed by alternate attacks of excitement and depression, but was not placed in confinement. Ultimately, it was necessary to place him in an asylum, where he afforded a marked example of moral insanity.

A case recorded in Dr. Wigan's work, "On the Duality of the Mind," is generally known, and well illustrates the influence of injury to the cerebral substance upon the moral character. A blow upon the head, given by a teacher with a ruler, was followed by an entire alteration in the moral feelings. Mr. Cline trephined, there being a very slight depression of the bone, and a spiculum of bone was found pressing upon the brain. Perfect recovery of mind followed.

A careful examination of the recorded examples of moral insanity will show, that, in many of them, there was more or less disorder of the understanding also; at the same time they all afford examples of disorders of the mind, involving the *lower propensities* in their action, uncontrolled by the moral sentiments.

Sauvages and others attempted to distinguish, in their classification, between *hallucinationes* and *morbi pathetici*, but Pinel drew from his practical experience much more decided conclusions, and recognized

a form of mental disorder to which he gave the name of *manie sans delire*, or "madness without delirium," that is to say, without lesion of the intellect. To the question placed at the head of his chapter, "Can mania exist without lesion of the understanding?" he replies, "We may entertain a just regard for the writings of Locke, and yet think that his notions about mania are very incomplete, when he regards it as inseparable from delirium. Like this author, I thought so myself, when I resumed at the Bicêtre my researches on this disease, and I was not a little surprised to see many madmen, who at no time had manifested any lesion of the understanding, and who were under the dominion of a sort of instinctive fury, as if the affective faculties alone had been diseased."[1]

This description, however, only includes one class of cases, those, namely, in which there is simply instinctive fury or excitement,—an ungovernable passion, excited upon the least provocation (*emportement maniaque*). Pinel's first example of mania, without delirium, is of this order.[2]

The right understanding of the conditions to which Pinel applied the terms "reasoning madness," and "mania without delirium," as also the moral insanity of Prichard, is much assisted by the adoption of Esquirol's division, into *affective* and *instinctive* monomania. We have, in a former section, objected to this writer's "affective monomania," as applied to cases of exaltation. Here, however, the use of the term is much more legitimate. In the first division, monomaniacs are not deprived of the use of their reason; but their affections and dispositions are perverted. "By plausible motives, by very reasonable explanations, they gratify the actual condition of their sentiments, and excuse the strangeness and inconsistency of their conduct." In the second, "the patient is drawn away from his accustomed course, to the commission of acts to which neither reason nor sentiment determines, which conscience rebukes, and which the will has no longer power to restrain. The actions are involuntary, instinctive, irresistible."

Dr. Prichard's observations on moral insanity apply more especially, but by no means exclusively, to the first division (*Manie raisonnante* of Pinel; *Folie d'action* of Brierre de Boismont). Esquirol observed, that Dr. Prichard had confounded the instinctive madness of Pinel, with his moral insanity; and Dr. Prichard, in a

[1] "Traité Medico-Philosophique sur l'Alienation Mentale," 2d Edit. p. 155.

[2] Op. cit. p. 156.

subsequent publication, admitted that the terms have reference to two distinct classes of cases. We have already taken occasion to point out the wide area of morbid mental phenomena which this writer's term embraces; and a reference to his own definition may tend to a clearer apprehension of a disorder, which, more than any other, has puzzled the psychologist, perplexed the advocate, and disconcerted the divine. He defined it to be "a morbid perversion of the natural feelings, affections, inclinations, tempers, habits, moral dispositions, and natural impulses, without any remarkable disorder or defect of the intellect, or knowing and reasoning faculties, and particularly without any insane illusion or hallucination."

"The signs of reasoning monomania,"[1] observes Esquirol, "consist in the change and perversion of the habits, dispositions, and affections. . . . The understanding is not essentially disturbed, since it assists in the acts of the insane person, and the patient is always ready to justify his sentiments and conduct. Reasoning monomania has an acute and chronic course. We distinguish three periods in it. In the first, the disposition and habits are changed. In the second, the affections are perverted; and, at length, in the third, a maniacal excitement appears; or else a weakening of the faculties, more or less rapid, leads the monomaniac to dementia."

"It is necessary to admit," observes Marc, "since facts demand it, that there are two sorts of monomania, one of which is *instinctive*, the other *reasoning*. The first bears the monomaniac on, by the effort of his will, primarily diseased, to instinctive and automatic acts, which are not preceded by reasoning; the other determines acts, which are the consequence of a certain association of ideas."[2]

The same writer observes, in regard to the lesion of the will,[3] that it may be primary or secondary; "in the *former*, the lesion is exclusively manifested in the faculty of the will itself, of which we shall give examples under instinctive monomania, which will leave no doubt as to the reality of this singular and inexplicable moral affection. In the *latter*, the lesion of the will results from the general imperfection of the intellect, or from delusions—the tenacity and the vividness of which, exercise such a tyranny over the will, that they subjugate it, and render it their slave. It is, if I may be allowed the comparison,

[1] Synonymous with the same writer's *affective* monomania.

[2] Vol. i, p. 244.

[3] By *will* must be understood, not the desire, but the power to execute the desire.

the depraved legislative power which usurps the legal independence of the executive power, and renders it its blind instrument."[1]

Thus, then, it is highly important to remember, that all examples of what are called moral insanity are not necessarily instinctive, impulsive, irresistible. For although (in a loose use of the word) the man morally mad may be said to be irresistibly so—that is, his condition of mind is not voluntary,—the examples of irresistible impulse belong to quite a different class. Ignorance of this distinction has often led to the most deplorable confusion. A case of sudden and irresistible impulse may, and generally does, afford an illustration of moral insanity; but many cases of moral insanity do not fall under the division of instinctive madness.

Modern physiology teaches that there is a *reflex action* of the cerebrum, as well as of the spinal cord; and thus satisfactorily explains the existence of the automatic or instinctive acts. To such cases Dr. Carpenter alludes when he says, "So far as the directing influence of the will over the current of thought is suspended, the individual becomes a thinking automaton, destitute of the power to withdraw his attention from any idea or feeling by which his mind may be possessed, and is as irresistibly impelled, therefore, to act in accordance with this, as the lower animals are to act in accordance with their instincts."[2]

We may now consider the various special manias which involve the propensities in their action: Homicidal and suicidal mania, kleptomania, erotomania, pyromania, and dipsomania. These may be complicated with disordered intellect, or they may not; they may be automatic and sudden in their action, or not. Rarely are they, strictly speaking, monomaniacal.

1. *Homicidal mania* (*phonomania*, *monomanie meurtriere*, *homicidal insanity*, *&c.*) We shall first consider that most important form of mania, the homicidal. It is generally classed under the monomanias; at the same time it may, and often does, coexist with disorder of the mental functions generally. Examples may be found in the works of all writers on insanity, especially in Esquirol, Marc, Rush, and Prichard. These writers enter more or less into a consideration of its legal bearings; with these, however, we are not at present concerned. In treating of hallucinations, it was stated that a homicidal *act* may be the result of hearing imaginary voices commanding the patient to kill. Motives, therefore, very dissimilar

[1] Op. cit. vol. ii, p. 187.

[2] "Human Physiology," Fourth Edit, p. 840.

in their nature, and equally the result of disease, may lead to the same act; it may be fairly presumed, however, that such hallucination, so far from being the first in the series of morbid mental changes, is, in some instances, itself the offspring of a diseased propensity. Attention is especially directed to this observation, because it is not uncommon for authors to charge the intellect with being the instigator of an act, of which it appears to be the proximate cause; overlooking the possible antecedent genesis of the act in perverted propensities, which might suggest and give their own peculiar tinge to any hallucination or delusion. This, however, need not prevent the admission, that the primary cause of homicidal acts may, in some rare cases, be traced to the understanding; the propensities playing but a secondary rôle in their development. Again, should an individual, anxious to commit suicide, shrink from the execution of the act, he may murder another person, in order that he may himself be put to death. But here the origin of the malady is not to be found simply in an intellectual process of thought; the motive lies deep among the feelings, and is even here closely associated with the homicidal propensity.

It will be convenient to classify some of the most remarkable examples of this disorder which are on record, under two principal heads. 1st. Those in which there is no marked disorder of the intellect. 2d. Those in which such disorder was more or less apparent. The former class may be considered, according as there was, or was not, evidence of premeditation and design. In the latter class, there are some cases marked by deficiency of intellect, as idiocy, imbecility, &c., while others are rather indicated by a state of exaltation, shown by delusions, hallucinations, &c. These generally constitute the motive.

I. Without marked disorder of the intellect.

(*a.*) Without premeditation and design.

1. In Dr. Skae's Report of the Royal Edinburgh Asylum (1850) is given an excellent example of this class. There was no disorder of the intellect, no motive, and no design evinced; only an impulse. "She deplored, in piteous terms, the horrible propensity under which she labored."

2. In 1854, a boy shot his stepmother in France. He confessed the act, but said it was the result of a mysterious irresistible impulse —a term with which the reporters upon his state of mind (including Calmeil) remark that he could not have been familiar. He admitted

an aversion to his stepmother. There was no disorder of the intellect apparent. There was an hereditary predisposition to insanity on both sides. (*Annales Medico-Psychologique*, April, 1856.)

3. A girl, aged five years, conceived a violent dislike to her stepmother, who treated her kindly, and to her little brother, both of whom she endeavored to kill. The original cause appears to have been the injudicious remarks of her grandparents, respecting her stepmother's marriage with their son. (Esquirol, *Mal. Ment.* vol. ii, p. 115.)

4. "A man," observes Esquirol, "aged thirty-two, tall, of a spare habit of body, nervous temperament, and mild disposition, had been carefully educated, and was a cultivator of the arts. He had suffered from cerebral affection, of which he had been cured for several months. He had been in Paris for two months, and had led a perfectly regular life. He entered, one day, the Palais de Justice, gained access to the hall of the Pas Perdus, threw himself upon an advocate, and seized him by the throat. He was arrested, conducted to prison, and committed to my care on the same day. At my first visit, which was made on the following morning, he was calm, tranquil, without anger or resentment, and had slept the whole night. On the same day, he designed a landscape; he remembered very well what took place on the previous evening in the Palais de Justice, and spoke of it with indifference. He had, however, no recollection either of the motives or circumstances attending the act, and entertained no regret on account of it. He replied politely to my questions, without dissimulation, and with the accent of truth. 'I went to the Palais de Justice, as I would have gone anywhere else, to the Palais Royal, or to the Tuilleries, like an idler, who was walking before me, without any intention or special purpose; not only had I no ill-will against this advocate, but he was entirely unknown to me; nor have I ever had an interview or business with any advocate whatever. I do not understand how I could have met with a disaster of this kind. It might have taken place anywhere else, and I might have been directed to any other person.' On my remarking to him, that nothing but an instantaneous disorder could explain this act: 'You can explain it as you please,' he said, 'as for myself, I do not feel ill, and I am unable to say how this event has happened to me.' During the three months that M. was subject to my observation, he never was, for a moment, incoherent,—never delirious, and never committed an unbecoming act; he was polite and obliging to all,

amusing himself with drawing, or reading serious books; he preferred solitude, but without affectation." (*Malad. Ment.* vol. ii, p. 102; *Idem*, Hunt's edit. p. 365.)

5. A highly interesting case may be found in Marc, vol. i, page 243. When the homicidal impulse passed away, the patient would exclaim: "Release me! Alas, I have suffered much; but I have been very fortunate, since I have killed no one."

6. M. N., aged twenty-one years, constitutionally sad and morose, and the moral faculties but slightly developed. At eighteen, he was increasingly sad, but neither his conversation nor his actions indicated insanity; but he declared, that he felt a sort of impulse which led him to murder, and that there were moments when it would afford him pleasure to shed the blood of his sister, or to stab his mother. When the horrible character of such desires, and the penalties attached to their gratification, were pointed out to him, he calmly replied: "At such times, I am not master of my will." More than once, after embracing his mother, he became flushed, his eyes flashed, and he cried: "Mother, save yourself; I am going to cut your throat." Soon after which, he was calm, shed tears, and withdrew. For six months, during which this young man was tyrannized over by this horrible impulse, he slept little, suffered from his head, was averse to seeing any one, was insensible to the annoyance of his family, but manifested no sign of a disordered understanding in his conversation. He had no delusion, and had no motive for these acts. After eighteen months' treatment in an asylum, he lost the homicidal impulse, returned home, and did not relapse. (*Gazette des Tribunaux*, Sept. 18th, 1838; Marc, vol. ii, p. 35.)

7. Case of S., a male, aged sixty, dejected, but not considered insane, who suddenly seized a hammer, and struck a friend's child on the head with it; he was much attached to the child. (Dr. Metzer, Konigsberg; Marc, vol. ii, p. 97.)

8. Case of A. B., a female, aged twenty-six, who experienced, at every menstrual period, a strong homicidal impulse. (Marc, vol. ii, p. 112.)

9. Case of a young man at Charenton, who came voluntarily, on account of an impulse with which he was possessed to kill his mother, whom he adored, and against whom he had no complaint to make. Armed with a knife, which he suddenly took from the table while dining with her, he had only just time to cry out: "Oh, my mother,

my good mother, save yourself; I am about to strike you!" (Marc, vol. i, p. 49.)

10. A man attempted to stab a surgeon at the theatre, whom he had never seen before, but to whom he took a sudden and irresistible dislike. (Marc, vol. i, p. 161.)

11. M. R., a distinguished chemist, was tormented with the desire to kill, and implored God to deliver him from this temptation. When he found, however, that his will was becoming mastered by it, he fled to the superintendent of an asylum, and made him bind his wrists together. This had the effect of calming him; nevertheless, he shortly after attempted to kill one of the keepers, and he died himself in a violent paroxysm. (Marc, vol. i, p. 241.)

12. Case of a man impelled to strike a child over whom he was placed as protector; in consequence of which, he delivered himself up to justice. (Marc, vol. i, p. 241.)

13. A young woman experienced homicidal impulses, for which she could give no reason, and implored, every time they came, that she should be restrained by a strait-waistcoat. (Marc, *loc. cit.*)

14. A man, in a paroxysm of sudden fury, cut his son's throat and wounded his wife. This unfortunate man, who was conscious of his frightful disease, had begged to be placed in confinement. He felt the approach of his sanguinary paroxysms, and he often endeavored to prevent the melancholy consequences by self-imposed mechanical restraints. (Marc, vol. i, p. 242.)

15. A young cook, in good health, with the exception of disordered menstruation, had a gentle disposition, but, at each menstrual period, she became maniacal, and would pursue, with a knife, any one who displeased her. After menstruation, she was well, and instantly perceived the nature of her acts. (Marc, vol. i, p. 317.)

16. A man, aged forty-five, opulent and enjoying good health, and without any disorder of the understanding, consulted Esquirol, in consequence of having felt, after reading the trial of Henriette Cornier, a strong desire to kill his wife on awaking in the night. During three weeks, the same feeling returned three times, and always during the night. He had left his wife, from a fear lest he should succumb to his propensity, and was very anxious to use what means he could to be delivered from this fearful (and what is termed *ideo-motor*) impulse.

17. Case of Jacques Mounin, who was subject to epileptic attacks and paroxysms of blind fury, during one of which he killed several

persons. He stated that, during these paroxysms, he saw nothing but flames, and that blood was most delightful to his sight. (*Georget, Discus. Med. Legal.* p. 153; Ray's *Jurisprudence of Insanity*, p. 203.)

18. Case from Gall. (*Functions of the Brain*, vol. iv, p. 103. Cited by Ray, *op. cit.* p. 200.)

In the following examples, there was a powerful impulse to take away the life of *children:*

Catherine Olhaven. (Marc, vol. i, p. 246: *Annales de Henke*, 1821.)

20. Case of Madame T. (Esquirol, *Malad. Ment.* vol. ii, p. 126.)

21. Case at Charenton. Esquirol speaks of the patient as one "tourmentée depuis quelque temps par des idées d'infanticide et qui ne deraisonnait." (*Malad. Ment.* vol. ii, p. 130.)

22. Catherine Hansterin, from Gall. (*Op. cit.* vol. iv, p. 152. Cited by Ray, *op. cit.* p. 213.)

23. Peter Neilsen. He drowned four out of his seven children. (Reported by Dr. Otto, and cited by Ray, *op. cit.* p. 213.)

24. Case of a servant in Baron Humboldt's family. (Marc, *Consult. Medico-Legale, pour H. Cornier*, p. 52.)

25. Case of William Brown, who strangled a child whom he accidentally met, and then requested to be taken into custody. "On the trial, he said he had never seen the child before; had no malice against it; and could assign no motive for the dreadful act. He bore an exemplary character, and had never been suspected of being insane." (Ray, *op. cit.* p. 200; Knapp and Baldwin's *Newgate Calendar*, vol. iv, p. 80.)

26. Case of Frederick Jensen, who experienced a powerful impulse to kill himself and his own boy, whom he much loved. (Reported by Dr. Otto, and cited by Ray, *op. cit.* p. 204.)

27. Case of Madame N., who experienced most powerful impulses to kill her infant. "I repelled the idea," she said; "and asked myself, coolly, why I should conceive such frightful designs—what could inspire me with them? I found no answer; the same desire was renewed, I feebly resisted, was overcome, and was about to consummate the crime; a new effort arrested me; I quickly raised the knife to my own throat, saying: 'Better, wicked woman, that you should die yourself!'" She was restored to mental health after three months' treatment. (Esquirol, *Malad. Ment.* vol. ii, p. 821.)

28. Case of a female reported by Dr. Otto. She asserted, that

the sight of a very young infant kindled up an irresistible propensity to destroy its life. (*Medico-Chirurgical Review*, O. S. xiii, p. 441; Ray, *op. cit.* p. 200.)

29. Case reported by Dr. Michu, of a young countrywoman, aged twenty-four, who was seized, ten days after her confinement, with the desire of killing her infant. She ultimately recovered. (*Memoire sur la Monomanie-Homicide*, p. 99; Ray, *op. cit.* p. 209.)

30. Reg. *v.* Brixey, June, 1845. (*Med. Gazette*, vol. xxxvi, pp. 166, 247.)

31. Reg. *v.* Stowell. (*Med. Gazette*, vol. 47, p. 569.)

(*b.*) With premeditation and design:

1. The celebrated case of Henriette Cornier, in which, however, there was no motive; and Marc considers it as an example of the instinctive form. (Marc, vol. ii, p. 71.)

2. C. E. N. A woman, who had been subject to attacks of slight mania, cut a child's throat, without any other than the most chimerical motive. The physician who was consulted, demurred to her being insane; but the court ruled that she was. (Dr. Metzer, Königsberg, 1780; Marc, vol. ii, p. 92.)

3. Case of Augusta Willhelmine Strohn. Here the motive was thus explained: When young, she had been present at the execution of a person convicted of assassination. The imposing scene which she had witnessed; the interest—and even the pity—of so many, concentrated on one person, induced a desire that she might be placed in a similar position. Her religious principles prevented her, for a long time, doing anything that might bring about her wishes. But, six weeks before the first act in the tragedy, she witnessed another execution, and this led her to form the resolution that she ultimately carried out—of murdering an individual towards whom she had not the slightest feeling of dislike. (Marc, vol. i, p. 235.)

4. A highly interesting example of this class is reported by Dr. Otto. (*Medico-Chirurgical Review*, vol. xiii, p. 446; Ray's *Jurisprudence of Insanity*, p. 211.)

II. Cases, in which there was more or less disorder of the intellect.

(*a*) With deficiency of the intellect, imbecility, &c.:

1. Case of Henry Feldtman, reported by Georget, aged fifty-six, described as naturally of limited mental power, and who stabbed his own daughter. (Marc, vol. i, p. 24.)

2. Case from Gall, of an imbecile who killed his two nephews, and reported his deed laughingly to their father.

3. Case of an imbecile who killed a servant who was feigning death, reported by Dr. Haindorf. (Marc, vol. i, p. 210.)

4. A semi-cretin killed his brother-in-law with a hatchet. In this case there was a motive of revenge. (*Annales de Henké*, 1834; Marc, vol. i, p. 390.)

5. Dr. Morel was requested, in 1854, to examine the mental condition of a woman, who killed her grandchild with a hatchet. There was no motive. Dr. Morel found she was in a state of *melancolie avec stupeur*. (*Annales Medico-Psychologiques*, April, 1856.)

(*b.*) With exaltation, indicated by delusions, hallucinations, &c.:

1. Esquirol reports a case, in which a young woman attempted to kill him, in consequence of an illusion, under which she labored.

2. A case of double homicide, in which the patient attributed the deed to an illusion, and in which, while the intellect was evidently disordered, there was, probably, also a strong impulse to destroy life. (Marc, vol. ii, p. 27.)

3. Esquirol reports the case of a man, who appeared to have been eccentric all his life, and had decided delusions and hallucinations. Under the belief that a young woman called him harsh names, he drew his sword, which he was in the habit of wearing, and killed her. He escaped—was captured; again attempted escape, was much excited during the trial, and was indignant at the plea of insanity being raised. He was acquitted, and placed in an asylum. (Marc, vol. ii, p. 27.)

4. Professor Grossi, of Munich, relates the case of a man, B., above seventy years of age, who became subject to delusions, in consequence of which, he murdered his valet, with premeditation; also, one of his children, and nearly despatched another. In the course of a year, he died in a state of dementia. (Marc, vol. ii, p. 117.)

5. An officer rushed upon six of his comrades, killed one of them, and seriously wounded four others. Dr. Chambeyron arrived at the conclusion, that the deed was the result of a hallucination. (*Annales d'Hygiene Publique*, tom. xviii, p. 374; Marc, vol. ii, p. 153.)

6. Pierre Riviere killed his mother, his sister, and brother. He had decided delusions, and was proved to have been insane from four years of age. He was condemned to death; but, on the subsequent report of his case by Esquirol, Marc, and others, his life was saved. (*Annales d'Hygiene;* Marc, vol. ii, p. 148.)

7. A German soldier killed his child, to whom he was attached, because he believed that God wished to prove him, as He had proved Abraham. (Marc, vol. i, p. 234.)

8. A woman drowned her own daughter, aged five and a half years, in the sea, and replied with calmness, when interrogated, that she wished to deliver her child from all the evils of this life, and to procure for her all the happiness of Paradise. (*Le Constitutionnel*, April 25, 1833; Marc, vol. i, p. 234.)

9. Cases of homicidal mania have occurred at the moment of awaking from sleep, or before consciousness has fully returned. The case of Bernard Schirnadzig, who killed his wife while in a state intermediate between sleeping and waking, in the belief that he saw a stranger before him, is full of interest. (Marc, vol. i, p. 56.) The Germans call this condition *schlaftrunkenheit*, or sleep-drunkenness.

To this analysis of cases, a brief summary of the chief characteristics of homicidal mania may be added. It manifests itself under very different mental conditions. It may, or may not be associated with decided lesions of the intellect. It may, or may not be impulsive in character. It may, or may not be preceded by appreciable premonitory symptoms. It may, or may not be manifested from early life. However, careful investigation will reveal, in the majority of cases, a disturbance, more or less, of the intellectual as well as the moral faculties; leaving still a considerable number of cases in which there is a sudden, blind, motiveless, unreasoning impulse to kill. An inquiry into the patient's history will very generally detect a change in the character; this, however, obviously cannot be looked for in cases where mental disorder can be traced back into infancy, or where intellectual or moral defects are congenital. Further, the homicidal act, when the result of disease, is usually accompanied by no motive, or a very trivial one, except so far as a delusion, or the gratification of a diseased propensity, can be regarded in this light.

We have already seen that there may be premeditation, and there may doubtless be a resort to ingenious deception. A woman, thirteen days after her confinement, cut off the head of her child with a razor, while laboring under puerperal mania. She had obtained a razor on the pretext that she wanted to cut her nails. She was acquitted by the jury, on the ground of insanity. (Chelmsford Assizes, March, 1848.)

A convalescent patient once induced his attendant to lend him a razor, for the purpose of shaving. He sat down before a glass, and

having shaved one side of his face, called to him to see with what dexterity he had performed that part of the operation. The attendant came forward, but the patient started up and nearly severed the man's head from his body with the razor.

The homicidal act, like the other actions of lunatics, is effected without accomplices; the patient's own friends or relatives are very frequently his victims; after the commission of the act, he rarely escapes, or takes precautions to prevent discovery; and, by his own hand, he frequently terminates, at once, his life and his insane career.

II. *Suicidal Mania.*—We have had occasion, previously, to remark that the act of self-destruction may originate in different, and even opposite, conditions of the mind. Hence, it is quite clear that the suicidal act cannot always be properly referred to disorder of the same group of feelings. Perversion of the natural instinct of self-preservation is undoubtedly the immediate cause in one class of cases; and it may be said that in all, this conservative principle, so deeply implanted in the inner recesses of our constitution, is overborne, if not itself primarily at fault, by the diseased action of other mental faculties or instincts. There is, in profound melancholy, a condition of misery, from which it is natural and reasonable, so to speak, to attempt to escape. Viewed apart from the moral bearings of the question, the patient may simply be regarded as choosing death as the least of two evils. He prefers severing the thread of life, to the endurance of its misery.

But of two patients, equally a prey to melancholia, the one will attempt to terminate his existence, while the other, so far from contemplating, will recoil with horror from, the act. By the latter, the natural desire to retain life may be possessed in much greater force than by the former; or there may survive, in one, religious convictions antagonistic to the execution of the act of suicide, which may either never have been present in the other, or have been paralyzed by disease. Other motives than those now referred to, may prompt self-destruction. Thus, the act may be intimately associated with delusional forms of insanity; or again, it may be instantly committed, in consequence of any one of the feelings receiving a shock.

From the foregoing remarks, it will be seen that suicidal mania admits of classification. First, there are cases in which the instinct of self-preservation is more especially diseased, being, as it were, reversed in its operation. There is here a blind, unreasoning, irre-

sistible impulse to commit suicide—a true suicidal monomania. Several well-marked examples have come under our observation. We have recently, also, been informed of a case in which the patient was attacked by a strong impulse to commit suicide, and, at his own urgent request, was confined in a lunatic asylum, where he has not manifested the slightest aberration of intellect. Two or three years previously, he was injured by lightning; shortly after which he was decidedly insane, but recovered. M. Debreyne[1] has recorded the following: The patient, who was opulent, stated that he was perfectly happy, and free from any cause of suffering, with the exception of one circumstance which tormented him. This was the desire, thought, or violent temptation, to cut his throat whenever he shaved himself. He felt as if he should derive from the commission of the act "*an indescribable pleasure.*" He was often obliged to throw the razor away. This form of suicidal mania may present, as has been well observed by M. Bertrand,[2] the spectacle of an individual perfectly reasonable, influenced by an enlightened religion, physically and morally happy, well aware of the criminality of suicide, and yet impelled to commit it, in spite of himself, by a force acting automatically and superior to his reason and his will; in the same manner as the hydrophobiac, also in spite of himself, is driven to bite, without distinction, all who come within his reach.

Secondly, suicide may be the result,—not of an instinctive monomania,—but of melancholia. When treating of this form of mental disease, we referred to the frequency with which the ruling propensity is that of self-destruction. The degree in which the patient is depressed, is not the measure of his tendency to self-injury; at the same time, intense depression is, in a large number of instances, the immediate antecedent of the suicidal act.

The third division comprises those cases of suicide which spring from delusions, hallucinations, &c. A man believes that he can alone gain admittance into heaven by self-immolation; another distinctly hears a voice commanding him to destroy himself; while a third sees a form which leads him on to the brink of a precipice or a river.

M. de Boismont observed, of suicidal patients: Eighty-three in

[1] "Du Suicide," p. 82. See also Bertrand, p. 265.

[2] "Traité du Suicide," 1857, par M. Bertrand, p. 259.

For some interesting examples of suicidal mania, the student is referred to Marc, vol. ii.

which there were hallucinations of hearing; thirty of sight; six in which there were illusions of hearing; thirteen of sight; thirty-three of smell and taste; six of touch.

Fourthly and lastly follow, as not precisely falling under the three preceding divisions—those examples of sudden suicide to which we have referred. It must obviously be very difficult to determine, in such cases, whether the individual was, or was not, a free agent at the time.

And here it may be observed, in regard to suicide in general, that the question so often asked, *Is suicide the result of cerebro-mental disease?* must be answered both affirmatively and negatively. That the act may be committed in a perfectly healthy state of mind cannot, for a moment, be disputed. On the other hand, that the act is, in a large number of instances, the consequence of disease is, of course, equally indisputable.

Let us now briefly consider, *seriatim*, several points of interest and importance in relation to suicide.

1. *Modes of Death.*—Marvellously ingenious are the contrivances resorted to, in order to destroy prematurely that which the great mass of mankind cling to so tenaciously, and are equally ingenious in devising means to preserve and prolong. An almost universal passion is here extinguished, and its normal action reversed. The law, almost coextensive with the gift of life, that "no man hateth his own flesh," is here disregarded and broken.

The following is a statement of the modes of death adopted by 3598 persons, who committed suicide in France during the year 1851:

Drowning,		1174	
Strangulation,		1247	
Fire-arms,	Pistol,	112	487
	Gun,	112	
	Not specified,	263	
Asphyxia by Charcoal,		307	
Cutting instruments,		126	
Poison,		63	
Precipitation,		162	
Other modes,		34	
		3598[1]	

2. *Age.*—Many remarkable instances are on record, of children committing suicide. Of fifteen under sixteen years of age, six were

[1] Bertrand, op. cit. p. 160.

fifteen, one was fourteen, four were thirteen, three were twelve, and one was only nine. From 1835 to 1844, there were, on an average, nineteen every year committed suicide in France under sixteen years of age. A writer in the *Psychological Journal* (April, 1856) states, that "of twenty-six cases of suicide in children, which he has collected, one was five years old, two were nine, two were ten, five were eleven, seven were twelve, seven were thirteen, and two were fourteen. Seventeen were boys, seven girls, two not mentioned. Amongst twenty-two of them, ten were drowned, ten hung themselves, and two broke the neck. All the girls were drowned. Five of the twenty-six failed in the attempt. Of the last, a woman, mentioned by Esquirol, who had thrown herself into the water at nine years of age, did the same at forty. M. Falret relates the history of a woman affected with suicidal mania from the age of twelve years; and of another who, from the age of ten, made frequent attempts at self-destruction, which succeeded at forty-five. The inadequacy of the motive is often very surprising. One boy of nine years killed himself, after having lost a bird; another of twelve, because he was only the twelfth in his class at school. . . . On the 7th of March, 1836, Henri Fournier, æt. 12, was sent by his mother for a watch, which he broke. He was sent to bed at six P.M. with a piece of dry bread. At ten o'clock, his little sister was sent to see if he was asleep; she returned with the answer that he was. At six o'clock the next morning, a woman entered his chamber and found him hung. He had made a rope of two cravats, and hung himself to a nail in the wall, climbing up by a wardrobe. Every one bore testimony to his mildness and intelligence; he never complained of ill-treatment, except by once observing, that he got punished, whilst his sister was always pardoned."

The following table exhibits the absolute number of suicides committed in France, in the year 1843,[1] arranged in decennial periods. We are not in a position to ascertain the numbers proportionately to the population living at the same periods of life. Notwithstanding this, however, it is of much interest:

Under 16,	15
From 16 to 21,	147
" 21 " 30,	481
" 30 " 40,	540
" 40 " 50,	647

[1] M. Bertrand, op. cit. p. 73.

From 50 to 60,	506
" 60 " 70,	384
" 70 " 80,	170
80 and upwards,	20
Unascertained,	110
Total,	3020

3. *Sex.*—Women more rarely commit suicide than men. Some statistics indicate the liability to be threefold greater among the latter. M. de Boismont holds that one circumstance distinguishing insane from sane suicides is, that this liability is much more marked among the sane class. He reports 117 cases admitted into his asylum, of whom 58 were men, and 59 were women. At Bethlem, according to Dr. Webster, 29 per cent. of the female, and 32 per cent. of the male admissions, are suicidal.

4. *Marriage.* More women commit suicide in an unmarried than in a married state. The same might be expected to hold good of men; but the inference, from the statistics of M. Etoc-Demazy, is, that neither celibacy nor marriage exerts any special influence. On the other hand, M. de Boismont's figures tend to show that, both among men and women, celibacy favors suicide in the community at large; but that, among cases of genuine suicidal insanity, the reverse occurs, there being a larger proportion married than unmarried. This he regards as one among other points of difference, between self-destruction committed by an insane and sane class of persons.

5. *Hereditary transmission.*—Many remarkable instances are on record, of the suicidal tendency descending from one generation to another. It has been observed much more among insane persons, who have committed self-destruction, than among the sane.

Rush relates the case of a lady who was the subject of suicidal insanity. Two of her daughters were similarly affected. Two sons, who were twins, and were remarkably alike in all respects, were captains in the American war. One of them was found in his room early in the morning with his throat cut. He had been depressed for a few days previously. The other, about two years afterwards, became similarly depressed. "Early in the morning he got up, and proposed to his wife to take a ride with him. He shaved himself as usual, wiped his razor, and stepped into an adjoining room, as his wife supposed, to put it up. Shortly after she heard a noise, like water or blood running upon the floor. She hurried into the room, but was too late to save him. He had cut his throat with his razor,

and soon afterwards expired." Gall mentions a family in which the father, grandfather, and great grandfather, committed suicide.

Falret records the history of a family, consisting of five sons and one daughter. The eldest died by his own hand, at forty years of age. The second son hung himself at thirty-five. The third threw himself out of a window, but was not materially injured. The fourth attempted to fire a pistol down his throat. The fifth, although melancholy, did not make any suicidal attempt; nor did the sister. To this it must be added, that an own cousin drowned himself.

6. *Seasons.*—In regard to the influence of the seasons, it is unquestionable that there is the largest number of suicides in spring and summer—a fact which might scarcely have been expected *à priori.* The gloom of autumn seems much more calculated to induce mental depression, and consequent self-destruction, than the joyousness of approaching summer. M. de Watteville states, as the result of his experience and inquiries, that, of the seasons of the year, winter furnishes the smallest number of suicides; that they steadily increase from January up to June, and then diminish in number down to December. The suicidal epidemic recorded by Sydenham (1697) occurred in June. In 1806, a like epidemic raged at Rouen, during the months of June and July. From Dr. Benedict's Report of the New York State Asylum, for 1850, we learn the following interesting particulars, which illustrate the epidemic character of the disease, and the season of the year most favorable to its development. "There were admitted, during the months of July, the large number of 44 patients from different portions of the State, 19 of whom were suicidal. Several of them had attempted suicide immediately previous to admission. Two patients, who had long been in the house, and never exhibited suicidal propensities, attempted it during the month (on the 13th), though they had no knowledge of the violent death that had occurred in another portion of the building. On the 17th, the patient, believed to be entirely ignorant of all that had occurred previously, attempted strangulation, and continued to repeat the attempt, until restrained by mechanical means. On the 20th, a patient, tried to open a vein in her neck; and on the 22d, another, who knew of the suicide, and was, no doubt, influenced by it, attempted her destruction. From the 14th of July, *fourteen* attempts were made by eight different persons; and twelve others, in whom the propensity was strong, required constant observation. The suicidal epidemic prevailed from the 12th to the end of July; after which it gradually subsided, and left the minds of most of the patients."

M. de Boismont found out of 3518 cases of suicide committed in France, in which the exact period of the commission of the act was discovered, that 2092 were in the day; 658 in the night; 766 in the evening.

III. *Kleptomania.*—Theft may be committed by the insane, either in consequence of certain delusions, or of some motive, as revenge, or as the result of what appears to be an instinctive impulse; lastly, the mind may be so perverted by disease, that under circumstances of powerful temptation, theft may be committed, which *would not have been the case, had the individual been free from any mental affection.*

"This condition," as Marc observes, "is, doubtless, very singular and inexplicable, as are so many other of the intellectual and physical phenomena of life; but it is not the less real on that account, as is proved by numerous examples. Besides, the existence of facts of this description is now generally admitted by medical men, and even by lawyers, who have devoted any attention to mental diseases." (Vol. ii, p. 302.)

This affection is sometimes strikingly hereditary. The following is a highly interesting example, apparently the result of disease, and in which the propensity descended both to son and grandson. We give it on the authority of Dr. Julius Steinau, the author of an excellent little book on hereditary diseases: "When I was a boy, there lived in my native town an old man, named P——, who was such an inveterate thief, that he went, in the whole place, by that name. People, speaking of him, used no other appellation but that of '*the thief*,' and everybody knew then who was meant. Children and common people were accustomed to call him by that name, even in his presence, as if they knew no other name belonging to him; and he bore it, to a certain degree, with a sort of good-naturedness. It was even customary for the tradesmen and dealers, who frequented the annual fairs in this place (which are there of a more mercantile character than in other countries), to enter into a formal treaty with him,—that is, they gave him a trifling sum of money, for which he engaged not only not to touch their property himself, but even to guard it against other thieves.

"A son of this P——, named Charles, afterwards lived in B—— during my residence there. He was respectably married, and carried on a profitable trade, which supported him handsomely. Still, he could not help committing many robberies, quite without any neces-

sity, and merely from an irresistible inclination. He was several times arrested and punished. The consequence was, that he lost his credit and reputation, by which he was at last actually ruined. He died, while still a young man, in the House of Correction in Sp——, where he had been confined as a punishment for his last robbery.

"A son of this Charles, and grandson of the above mentioned notorious P——, in my native town, lived in the same house where I resided. In his early youth, before he was able to distinguish between good and evil, the disposition to stealing, and the ingenuity of an expert thief, began already to develop themselves in him. *When about three years old*, he stole all kinds of eatables within his reach; although he always had plenty to eat, and only needed to ask for whatever he wished. He, therefore, was unable to eat all he had taken; nevertheless, he took it, and distributed it among his playfellows. When playing with them, some of their playthings often disappeared in a moment, and he contrived to conceal them for days, and often for weeks, with a slyness and sagacity remarkable for his age. When about five years old, he began to steal copper coins; at the age of six years, when he began to know something of the value of money, he looked out for silver pieces, and, in his eighth year, he only contented himself with larger coins, and proved himself to be, on public promenades, an expert pickpocket. He was early apprenticed to learn a trade; but his master, being constantly robbed by him, soon dismissed him. This was the case with several other tradesmen, till at last, in his fourteenth year, he was committed to the House of Correction. Whether that institution was fortunate enough to correct this ill-fated youth, the writer of this essay is unable to state."

An analysis of the cases reported by Marc and some others, as illustrative of kleptomania, is here given under two divisions; the first, in which disorder of the intellect was not present,—the second, in which such disorder was manifest.

First division:

1. M. X.—Theft of small value, in a person of ample means, in whom it was difficult to establish anything beyond eccentricity. The law decided that he had acted involuntarily. (Marc, vol. ii, p. 249.)

2. A young lady of rank was addicted to stealing handkerchiefs, gloves, &c., and mourned over her propensity with tears. No lesion of the intellectual faculties. (Marc, vol. ii, p. 254.)

3. Case of a soldier in Saxony, who labored under an almost con-

stant propensity to steal. There does not appear to have been any other symptoms of mental aberration. He was occasionally seized with the impulse in the middle of the night. (*Magasin de Psychol. Experiment de Moritz*, tom. ii; *Müller, Med. Legal.* tom. ii, p. 151; Marc, vol. ii, p. 255.)

4. Case of a lady subject to periodical attacks of insanity, generally in the spring, and followed, in one instance, by an irresistible desire to steal, for the gratification of which she was brought to trial, but was acquitted on the plea of insanity. The plea of insanity was urged with great talent by Esquirol and Marc. When asked what passed through her mind when she committed these thefts, she replied: "I cannot tell; but I have such a mad longing to possess myself of everything I see, that, were I at church, I should steal from the altar without being able to resist it." (Marc, vol. ii, pp. 275, 303.)

5. Case of a gentleman very wealthy, who stole from time to time, and stated that he could not help it. He restored to their owners the stolen articles a few days afterwards. (*Mag. de Psychol. de Moritz*, tom. ii.)

6. Case of a medical man, whose kleptomania was manifested by stealing table-cloths and nothing else. (Marc, vol. ii, p. 355.)

7. Lavater mentions the case of a doctor, who could not leave his patients' rooms without taking something away with him unobserved; and his wife ransacked his pockets, and duly returned the knives, thimbles, scissors, &c., to their respective owners. (Marc, vol. ii, p. 255.)

8. The wife of the celebrated Gaubius appears to have been similarly affected as No. 2.

9. Acrel mentions the case of a young man who, after receiving a severe wound on the temple, for which he was trepanned, manifested an invincible propensity to steal, which was quite contrary to his natural disposition. After committing several larcenies, he was imprisoned, and would have been punished according to law, had not Acrel declared him insane, and attributed his unfortunate propensity to a disorder of the brain. (Gall on the *Functions of the Brain*, vol. vi, p. 140.)

10. "An ex-commissary of police at Toulouse, Beau-Conseil, has just been condemned to eight years' confinement and hard labor, and to the pillory, for having, while in office, stolen some pieces of plate from an inn. The accused persisted, to the last, in an odd kind of

defence: he did not deny the crime, but attributed it to mental derangement, produced by wounds he had received at Marseilles in 1815." (*Journal de Paris*, March 29, 1816.)

11. Dr. Rush mentions "a woman who was exemplary in her obedience to every command in the moral law, except one,—she could not refrain from stealing. What made this vice more remarkable was, that she was in easy circumstances, and not addicted to extravagance in anything. Such was the propensity to this vice, that when she could lay her hands on nothing more valuable, she would often, at the table of a friend, fill her pockets secretly with bread. As a proof that her judgment was not affected by this defect in her moral faculty, she both confessed and lamented her crime." (*Medical Inquiries and Observations*, vol. i, p. 101.)

12. Cases illustrative of the effect of utero-gestation in exciting this monomania. (Marc, vol. ii, p. 262.)

13. Another highly interesting example of the same. (*Journal de Médecine de Levoux et Corvisart*, April, 1815, p. 308; Marc, vol. ii, p. 264.)

14. A Government *employé* at Vienna had the singular habit of stealing only household utensils, which he stored up in a room rented for the purpose, but neither sold nor made use of them. No more particulars of this case are furnished; it is, therefore, impossible to ascertain whether there were other symptoms of mental disorder or not. (Marc, vol. ii, p. 254.)

15. Victor Amadeus, King of Sardinia, was in the habit of stealing objects of little value; but no further particulars in regard to his mental condition are furnished. (Marc, vol. ii, p. 254.)

Second division:

In cases of general paralysis, it is not uncommon for this propensity to develop itself, in consequence of the delusion that everything belongs to the patient.

1. Dr. Prichard mentions a case in which paralysis and softening of the brain existed, and in which a lady, the wife of a man of large fortune, was so habitually accustomed to pilfering whilst shopping, that her husband was obliged to remove from a town to a country residence, in order to curtail his wife's sphere of pilfering. But this case, probably, differed little from those preceding, it not being ascertained that any delusion was mixed up with the propensity.

2. Case of Renaud, aged forty-four. His ideas appear to have been very limited, indicating a degree of imbecility. The medical

commission, Denis and Marc, arrived at the conclusion: 1st. That his moral faculties were so feeble as to constitute a state of imbecility, which, however, did not preclude a certain degree of cunning, when he delivered himself up to his propensity, or when he endeavored to deny the acts which arose from it. 2d. That it is exceedingly probable that Renaud experienced, at times, maniacal excitement: and it was especially in this exalted state that he twice attempted the theft. 3d. That, in any case, the mental condition of this individual did not appear to allow of the supposition that he had that degree of discernment and moral liberty which forms a necessary condition of criminality. (Marc, vol. i, p. 170.)

3. Case of a woman who abstracted articles of value, in consequence of laboring under the delusion that she was the legitimate proprietor of them. (Marc, vol. i, p. 308.)

Some cases of kleptomania will be found reported by M. Renaudin, in the *Annales Medico-Psychologique*, April, 1855.

This is not the place to enter into the subject of the medico-legal bearings of kleptomania; but a description of the disease would be incomplete without a brief reference, in conclusion, to the characters by which it may be recognized. The existence of hereditary disease; evidence of mental derangement prior to the development of the propensity; the occurrence of any physical disorder, as brain fever, the suppression of any discharge, or an injury to the head; the absence of any inducement to steal; the presence of physical symptoms in close connection with the act, as cephalalgia, cerebral congestion, &c.; and what is very important, if a female, her pregnancy; the general conduct of the individual, during and after the act, especially the confession of the crime after its commission, and the voluntary restoration of stolen goods;—all these are circumstances of primary importance, in attempting to decide upon the existence of kleptomania.

IV. *Erotomania.*—According to Esquirol, Marc, and others, this term should be restricted to those cases which are characterized by excessive love for an object, whether real or imaginary. "In this disorder," the former observes, "the imagination alone is affected; there is an error of the understanding; it is a mental affection in which amatory delusions rule, just as religious delusions rule in theomania or in religious melancholy. It differs essentially from nymphomania, and satyriasis. In the latter, the evil originates in the organs of reproduction, whose irritation reacts upon the brain. In eroto-

mania, the sentiment which characterizes it is in the head. The nymphomaniac, as well as the victim of satyriasis, is the subject of a physical disorder. The erotomaniac is, on the contrary, the sport of the imagination. Erotomania is to nymphomania and satyriasis, what the ardent affections of the heart, when chaste and honorable, are in comparison with frightful libertinism; while proposals the most obscene, and actions the most shameful and humiliating, betray both nymphomania and satyriasis." "The subjects of erotomania," the same writer observes, "never pass the limits of propriety; they remain chaste." And Marc also observes, that "in erotomania, the disease has the cerebral functions for its *point du départ;* while in nymphomania and satyriasis, the source of the disease lies in the reproductive organs." (Vol. ii, p. 183.)

It is by no means easy, however, to draw these distinctions in practice. The two may exist together. Patients may most completely exceed the limits of propriety, without our having any evidence that the primary disease is in the reproductive organs. It is difficult, in not a few instances, to determine whether the origin of the malady is there or in the head. Nor do Esquirol's examples of erotomania sufficiently sustain the definition with which he sets out. It may, perhaps, therefore, be better to employ the term in a more comprehensive sense, so far as to consider Esquirol's description of erotomania as but one of its forms—the sentimental—or as erotomania *proper;* and nymphomania or uteromania (having reference to females), and satyriasis (having reference to males), as additional forms. These latter are comprised, under the term aidoiomania, (*αἰδοῖα*, *pudenda*, and *μανια*), introduced by Marc; and the *fureur génitale* of Buisson.

In erotomania there is sometimes great depression of the vital forces; and in these cases, if the remedies employed do not soon take effect, the patient becomes more and more depressed in mind and body, emaciated, and rapidly sinks; an example of the erotic fever (*fièvre erotique*) of Lorry.

In some cases, there is, doubtless, an erotic condition, which interferes but very slightly with the accustomed exercise of the intellectual faculties, but which entirely overmasters the patient's controlling power. To these Prichard has referred, in connection with moral insanity, and gives the following in illustration: "A young man, previously of most respectable character, became subject to severe epileptic fits, which were the prelude to attacks of violent mania,

lasting, as it generally happens in this form of the disease, but a few days, and recurring at uncertain intervals. These complaints, after a time, disappeared in a great measure; but they left the individual excessively irritable in temper, irascible, and impetuous, liable to sudden bursts of anger and rage, during which he became dangerous to persons who were near to him. Of symptoms of this description, a state approximating to the satyriasis of medical writers is no unusual accompaniment; but, in the present instance, the diseased propensities of the individual were displayed in such a manner, as to render confinement in a lunatic asylum the only preservative against criminal accusations." ("Treatise on Insanity," p. 25.)

Examples of the various forms of erotomania will be found in Esquirol (*Malad. Ment.* vol. ii, pp. 32, 49).

A remarkable example of erotic monomania, in which there was no marked disorder of the intellect, is reported by Ferrus, Esquirol, and Marc. (*Annales Hygiène Publique et de Médecine Legale*, tom. iii, p. 198; Marc, vol. i, p. 30.)

A case is reported by Marc (vol. i, pp. 148–9). Erotic conduct appeared to be the result of the delusion, that a lady was not married to her husband. The patient had, in consequence, to be placed under restraint.

The same writer (vol. i, p. 209) cites from Gall the case of an idiot, seven years of age, who afforded a remarkable example of satyriasis.

Numerous examples of erotomania proper, are given by the same writer in his work, vol. ii, pp. 182, 193; and of aidoiomania, *Idem*, pp. 193, 291.

See also *Dict. des Sc. Med.* Art. "Nymphomanie," by Villermay; and Art. "Satyriasis," by M. Rony; and M. Bayard's *Treatise on Uteromania*, Paris, 1836.

Erotomania, in its extended signification, not unfrequently follows upon religious melancholy; a case lately in the Retreat was an illustration of it. It is not uncommon in the old, and, it may be, in persons who have been patterns of chastity during life. We have seen it among the first indications of senile dementia. It is more frequent among women than men; and, as Guislain observes, among the unmarried and widows than the married. It may often, in females, be traced to disordered menstruation; sometimes, as in a patient now in the Retreat, to ovarian disease. Nymphomania and satyriasis may be excited also by irritating substances in the bowels,

by ascarides, by hemorrhoids, by cutaneous eruptions, pruritus, &c. It may attack any age; but the sentimental form—*erotomania proper*—more especially affects the young, and those of an ardent, susceptible temperament. Idiots are frequently examples of the physical form (aidoiomania). Erotomania may be complicated with either hypochondriasis or hysteria.

V. *Pyromania.*—In a systematic work like the present, it is necessary to make some allusion to the condition of mind to which this term has been attached, and to which reference is so frequently made in psychological literature. At the same time, we think that it would have been better, had psychologists included pyromania under destructive mania in general, instead of constituting it a distinct form of mental disorder.

An examination of the recorded cases of pyromania will result in the rejection of a large number of them from the category of instinctive or impulsive forms of insanity. In a considerable number, there appears to have been a feeling of revenge present, which a perverted moral nature, sometimes independent of, but, in other cases, probably the result of disease, induced the gratification of incendiary acts. Of twenty cases recorded by Kein and Platner, sixteen appeared to originate in a motive, although, in many cases, of a trivial character. It is remarkable, however, how, even in such cases, as well as in those of an impulsive character, the age of the parties was under or about the period of puberty, and that a larger number of girls than boys have been the subject of this disorder.

Thus, of 124 persons accused of the crime of arson between 1825 and 1832, reported in the *Gazette des Tribunaux:*

1	was aged	8	years.		
1	"	10	"		
2	"	12	"		
2	"	13	"		
1	"	14	"		
1	"	15	"		
7	were aged	16	years.		
1	"	17	"		
4	"	18	"		
3	"	19	"		
3	"	20	"		

And Marc concludes, that the period at which pyromania is manifested in young persons, in consequence of the abnormal development of the sexual functions, corresponds nearly with the age between twelve and twenty; that, if there exist any general symptoms indicative of irregular development, or of critical changes by which the attempt is being made to perfect the evolution of the reproductive system, the probability is, that an incendiary act has been the result

of disease. Hence, attention should be paid to such signs, as a too rapid growth, or one that is retarded, as well as an arrest in the development of the sexual organs; also, unusual lassitude, glandular swellings, cutaneous eruptions, &c.

Further, it is very important to ascertain whether signs were present before the incendiary act, of approaching menstruation, or of its disorder or suppression. Again, this writer points out the necessity of ascertaining whether there are any symptoms of disorder of the circulation, as an irregular pulse, determination of blood to the head, vertigo, headache, &c.; or of the nervous system, as involuntary muscular movements, trembling, spasms, and convulsions of any kind, epilepsy and catalepsy. In connection with all these symptoms, there will generally be found some change in the character, such as a tendency to sadness, irascibility, and other like symptoms of disordered cerebral functions. In some cases on record, there existed, from infancy, a condition of mind bordering on imbecility.

In analyzing some of the most remarkable cases illustrative of the disorder which are on record, we have classified them under the following heads: I. Cases in which there was no marked disorder of the intellect. II. Those in which such disorder existed. Under the former head, it may be convenient to divide those (*a*) in which there was no premeditation or design, from those (*b*) in which this was present. Again, under the second head, it may aid the investigation of the subject, to separate those cases (*a*) in which there was a deficiency of the intellect, as imbecility, idiocy, &c.; from those (*b*) in which there were delusions, hallucinations, &c.; these generally constituted the motive.

I. Without marked disorder of the intellect.

(*a*) Without premeditation or design:

1. A boy, sixteen years of age, set fire to the house of the father of a person to whom he was much attached. He struggled against the impulse for a year. (Marc, vol. ii, p. 291.)

2. Case of Maria Franc. She could give no other reason, nor show any other motive for setting houses on fire, than a blind impulse, originating in witnessing a fire. Notwithstanding, says Gall, who reports the case, the fear, the terror, and the repentance which she felt in every instance, she went and did it afresh. (Gall, vol. iv, p. 104.)

3. Case of Eve Schembomska, aged twenty-two, who appears to have labored under a powerful impulse; to use her own words, "an

inward agitation that tormented her." (Klein's *Annales Judiciares*, xvi, 341; *Ray's Medical Jurisprudence of Insanity*, p. 191.)

4. Case of a peasant girl, Kalinovska, aged seventeen, who was suddenly seized with a desire to burn, after returning from a dance, where she had got heated. After struggling for three days against the impulse, she yielded to it, and declared that, on seeing the flames, she experienced a joy such as she had never felt before. (Klein's *Annales Judiciares*, xii, 53; Ray, *op. cit.* p. 191.)

5. Case of a servant girl, named Weber, aged twenty-two, who committed three incendiary acts. Her mistress had observed that she was sad, that she would frequently seem as if buried in thought, and would cry out in her sleep. It appeared that she had had, two years before, violent pains in the head, disordered circulation, insensibility, and epileptic fits; since which, the catamenia had been absent. (Klein, *op. cit.* xiii, p. 131; Ray, *loc. cit.*)

(*b*) With premeditation and design:

1. Case of a servant girl in a German village, who, in 1830, twice set fire to the premises of her master. The physician who examined her, concluded that she was not responsible for her acts, and that they proceeded from an incendiary impulse, which was a consequence of interrupted physical evolution. She was released, and, under appropriate medical treatment, she had no return of this morbid tendency. (*Neues. Archiv. des Criminalrechts*, xvi, 393; Ray, *op. cit.* p. 193.)

2. Case of Bertheim, a boy aged eighteen years, guilty of six incendiary acts in four months. The plea of insanity, however, was not sustained. (Marc, vol. ii, p. 364.)

3. Case of Jane Wells, aged thirteen, servant in Mr. Stone's family, near London. Dr. Southwood Smith certified, that she had been suffering from brain fever some time before; that her convalescence had been protracted, and that her mind might have been injured. The chief motive in this case appears to have been the pleasure of seeing a blaze. (Marc, vol. ii, p. 369.)

II. With disorder of the intellect :—

(*a*) Depressed condition of the intellect, imbecility, &c.

1. Case of a servant girl, aged seventeen, in whom the motive was trivial. (Platner's *Quæst. Med. Forensis*, 1824; Ray, *op. cit.* p. 193.)

2. Case of a boy, K., aged eleven years and six months. The conclusion arrived at by the expert who examined him was, that,

owing to a defective education, he was still infantile, and that the first incendiary act of which he was guilty, was a childish trick—the second, the result of secret ill-will; but that, independently of this, there was disease—congenital or acquired—which exercised a certain influence upon his conduct. (Dr. Meyer, of Pinneberg, *Annales de Henke;* Marc, vol. ii, p. 330.)

3. The celebrated case of Delépine reported by Georget. He was sixteen years of age. Marc characterizes it as a case of feebleness of mind, or demi-idiocy. (Georget, *Discussion Médico-Legal*, Paris, 1826, p. 130; Marc, vol. i, p. 392.)

4. Case of slight imbecility, and of pyromania, in a lad aged seventeen. No motive appeared beyond the love of mischief. It is, however, a highly interesting and instructive case. (Marc, vol. i, p. 406.)

(*b*) Exalted condition of the intellect, hallucinations, &c.:

1. Case of a girl aged seventeen years, in which an inward voice was heard commanding her to burn. This was the only sign of aberration of the intellect. (*Questiones Medicinæ, Forensis*, 1821; Ray, *op. cit.* p. 193.)

2. Case of a girl aged fifteen, named Graborkwa. Here the only disorder of the intellect was a hallucination, that an apparition was constantly before her, impelling her to acts of incendiarism. (Klein, *Annalen*, xii, p. 136; Ray, *loc. cit.*)

3. Case of a young man, M. B., a patient in an asylum in Paris, whose propensity it was to set fire to everything. It is to be inferred that it was associated with mania. (Marc, vol. ii, p. 309.)

VI. *Dipsomania* (διψος, thirst). *Mania crapulosa* vel *ebriosa, Oinomania, &c.* This is a form of mental disorder, which, in an especial manner, requires to be discriminated from what may be termed a merely physiological condition, in which the human animal chooses to indulge in alcoholic beverages to excess. On the one hand, the admission of this disease into the department of mental pathology, does not need to make us conclude, that there is no such thing as intemperance without disease; and, on the other, the fact that the abuse of alcoholic drinks has, oftentimes, no disease to plead in its excuse, must not lead us to the opposite extreme of denying that a truly diseased cerebral condition may exist, the result of which is inebriety. How, then, shall we distinguish the two conditions, when the result—intemperance—is the same in both? First, by observing whether there are any symptoms present which can be referred

to primary disorder of the nervous system, that is to say, other symptoms than those which, as in ordinary drunkenness, can readily be accounted for by the prolonged indulgence in alcohol. The family psychological history, again, is of great importance. Cases in which an insane parent has a drunken son, point strongly, of course, to disease. The development of the appetite for stimulants, in early life, is another indication in the same direction. But, to come more closely to the circumstances attending the habit itself, the prominent feature of this propensity is its *irresistibility;* the thirst for drink is the tyrant which overbears all the higher emotions, and blindly leads the oinomaniac to a course against which his reason and his conscience alike rebel. Dr. Hutcheson was among the first to draw special attention to this disease. After observing that there are individuals who, at the festive board, invariably become excited, if not intoxicated, but are otherwise habitually sober, and, in the course of the year, drink much less than others who never appear to be under the influence of stimulants, and that others indulge in their potations in a regular manner, and daily consume a larger quantity of liquor than is consistent with good health and sobriety, he proceeds:

"All these, however, possess self-control, and can, at any time, refrain from stimulants; but those afflicted with the disease cannot do so, however convinced they may be of the impropriety of yielding to their propensity, or however desirous they may be to subdue it.

"The disease appears in three forms,—the acute, the periodic, and the chronic.

"The *acute* is the rarest of the three. We have seen it occur from hemorrhage in the puerperal state, in recovery from fevers, from excessive venereal indulgence, and in some forms of dyspepsia.

"The *periodic*, or paroxysmal form, is much more frequent than the acute. This is often observed in individuals who have suffered from injuries of the head; females during pregnancy, at the catamenial period, and afterwards; and in men whose brains are overworked. Like the form about to be mentioned, it is frequently hereditary, being derived from a parent predisposed to insanity, or addicted to intemperance. In such cases, the probability of cure is very small. The individual thus afflicted abstains for weeks or months from all stimulants, and frequently loathes them for the same period. But by degrees he becomes uneasy, listless, and depressed, feels incapable of application, and restless, and at last begins to drink till he is intoxicated. He awakes from a restless sleep, seeks again a repe-

tition of the intoxicating dose, and continues the same course for a week or two longer. Then, a stage of apathy and depression follows, during which he feels a loathing for stimulants, is the prey of remorse, and regrets bitterly his yielding to his malady. This is followed by fresh vigor, diligent application to business, and a determined resolution never again to give way. But alas! sooner or later the paroxysm recurs, and the same scene is re-enacted; till, ultimately, unless the disease be checked, he falls a victim to the physical effect of intemperance, becomes maniacal or imbecile, or affected with the form of the disease next to be mentioned.

"Of all the forms of oinomania, the most common is the *chronic*. The causes of this are injuries of the head, diseases of the heart, hereditary predisposition, and intemperance. This is by far the most incurable form of the malady. The patient is incessantly under the most overwhelming desire for stimulants. He will disregard every impediment, sacrifice comfort and reputation, withstand the claims of affection, consign his family to misery and disgrace, and deny himself the common necessaries of life, to gratify his insane propensity. In the morning morose and fretful, disgusted with himself, and dissatisfied with all around him, weak and tremulous, incapable of any exertion either of mind or body,—his first feeling is a desire for stimulants, with every fresh dose of which he recovers a certain degree of vigor both of body and mind, till he feels comparatively comfortable. A few hours pass without the craving being so strong; but it soon returns, and the patient drinks till intoxication is produced. Then succeed the restless sleep, the suffering, the comparative tranquillity, the excitement, and the state of insensibility; and, unless absolutely secluded from all means of gratifying the propensity, the patient continues the same course till he dies, or becomes imbecile."

The grand characteristic, then, of the disease under which the oinomaniac labors is, as Dr. Hutcheson says, the irresistible impulse by which he is impelled to gratify his propensity; being, during the paroxysm, "regardless of his health, his life, and all that can make life dear to him." The chronic form is very intractable. Dr. H. states that he has only seen one case completely cured; and seclusion for two years was in this instance required. He most justly observes, that such unfortunate individuals are sane only when confined to an asylum.

Section VI.—*Of Mania.*

Passing from the consideration of the several so-called monomanias, or diseased manifestations of somewhat isolated propensities, we may next consider a more general affection, viz., Mania.

Syn. *Manie* (Fr.), *Pazzia* (Ital.), *Tobsucht* (Ger.). This, perhaps the most interesting and best recognized form of mental disease, has been usually treated of by writers, as essentially a disorder of the reasoning faculties. Dr. Prichard classed it under intellectual insanity. We are disposed, however, to regard it as belonging primarily to the affective group.

Frequent, and indeed usual, as is the concomitant of a rapid succession of intellectual images in mania, cases occasionally occur in which there is but little evidence of this. In such examples of mania, there is no marked derangement of the reasoning powers, nor yet of conception or memory. In regard to the latter, Chiaruggi affirms, "that for the most part it remains unimpaired through all the stages of mania." It may be said, indeed, and Esquirol has said it, that there is a lesion of the attention in acute mania. But it is by no means necessary to suppose this; and we are glad to be able to cite so high an authority as Baillarger in opposition to this view. "Attention," observes this writer, "is only the appreciation of the *will*. Now, what is there in the maniac which is changed, or, if you will, where is the lesion? Is it in the degree of energy with which he can apply his attention? *Assuredly not.*" His attention may, for a time, be directed into a different channel, or even overpowered by the impetuous torrent of his emotion; but, as Baillarger says, it would be wrong to assert that there is any lesion of this faculty. "We do not say of a man who usually carries a load of a hundred pounds weight, that his powers are diminished, because he falls down under a load two or three times greater."

Nor, in addition to the possible freedom from abnormal action of these mental processes which are more particularly associated with *internal* intellectual operations, is there of necessity any disorder of the *external* or sensitive operations of the mind, the perceptions or sensations of objects which are in relation to the senses.

Esquirol, and some other writers have very justly asserted, that what is ordinarily understood as *fury* is not identical with mania. "If maniacs are more frequently furious than other insane persons,

it must be attributed to their temperament, their extreme susceptibility, and the exaltation of all their faculties; circumstances which render them exceedingly impressible, and consequently very irritable and choleric." All that can be said is, that one or more of the passions is almost always exalted in mania, and that a furious condition, although not constituting an essential symptom, is very generally present in the acute form. The opinion of Esquirol, that mania is a disease in which the intellectual faculties are primarily affected, and the emotions secondarily—in this differing from melancholia, in which, as he conceived, the converse holds good—will not bear the test either of experience or physiology. For, although the statement made by Dr. Carpenter, that the disorder of the emotions, in all cases of mental disorder, precedes and gives rise to the aberration of the intellect, may require to be modified, there can be no doubt of its general truth in cases of mania. Mania, then, is essentially a disorder of the impulses or propensities; although, in the vast majority of instances, the purely intellectual functions are more or less disturbed. Mania is a term understood in various senses, and it doubtless includes many cases presenting very different symptoms; but certainly in its primary sense, that of raving madness, it may be properly regarded as passion arising from disease, and more prolonged in its operation. Even anger itself was characterized by Horace as a short madness—*ira furor brevis est;* and several writers, including Pinel, have indorsed this sentiment of the poet. "He who," observes this writer, "has identified anger with fury, or transient mania, has expressed a view, the profound truth of which one feels disposed to admit, the more one observes and compares a large number of cases of acute mania. Such paroxysms are rather composed of irascible emotions, than any derangement of the understanding, or any whimsical singularities of the judgment."

Broussais asserts the same. ("On Irritation and Insanity," p. 245.) "Anger is a mad passion, which carries us out of ourselves," observes Charron,[1] "and which, seeking to repel the evil which menaces us, or which has already injured us, makes our heart's blood boil, or creates in our mind furious vapors which blind us, and precipitate us into doing anything to satisfy the desire of revenge. It is a short madness—*a road to mania.*" And Marc asserts that no passion gives more easily place to a sudden perturbation of all the

[1] *Vide* M. Descuret's "La Médecine des Passions," p. 392.

organism than anger, nor produces in a person a closer resemblance to mania.

Reverse these descriptions, and it will be found that it is equally correct to say, that raving madness presents many of the characters of prolonged anger or passion. No one will deny that the man who is in a passion, has his feelings rather than his reason disturbed in the first instance; yet, when thus aroused, how confused is his language, how distorted is his judgment. He hurries from one unfinished sentence to begin another; his ideas flow too quickly to allow of their sufficiently rapid expression by language. But although mania, in many instances, is a prolonged anger, it may, likewise, be altogether pleasurable in its manifestations, presenting a condition of exhilaration and uncontrollable excitement, which is rather an excess of joy than of anger. It is, however, not the less emotional in character, and it is so far a state of irritability, that a very slight amount of opposition would be followed by a display of angry passion. And again, apparent tranquillity may coexist with latent or ill-suppressed emotions. "Il n'est pas rare de voir de maniaques," observes Dr. Brierre, "dont la fureur est pour ainsi dire *interne;* ils sont en general silencieux, mais leur actes qui sont instantanés, en font une espece dangereuse. On pourrait les appeler les fous rageurs."

Some of the instances given by writers as illustrative of instinctive mania, or of a destructive impulse, are, in point of fact, typical examples of mania in its pure, uncomplicated form;—a form sufficiently well marked to allow of Dr. Prichard's observation, that "the term raving madness may be used with propriety as an English synonym for mania. All maniacs display this symptom occasionally if not constantly, and in greater or less degrees." To this condition is added, with very few exceptions, marked disturbance of the intellectual faculties, and then we have the symptoms of ordinary acute mania.

While, therefore, we regard mania as usually having its origin in disordered emotions, we fully admit that the whole mind generally suffers in consequence, and that confusion then becomes universal throughout the "countless chambers of the brain."

Symptoms of Mania.—Mania has, in almost all instances, its stage of *incubation;* although, as compared with melancholia and dementia, the transition is usually less gradual from slight to unmistakable mental disorder.

"At first," observes Esquirol, "trifling irregularities in the affec-

tions are noticed in the conduct of one whom the first symptoms of the malady begin to disturb. The maniac is, at the commencement of the malady, either sad or gay, active or indolent, indifferent or eager; he becomes impatient, irritable, and choleric. He soon neglects his family, forsakes his business and household affairs, deserts his home, and yields himself to acts, the more afflictive as they contrast more strikingly with his ordinary mode of life. To alternations of delirium and reason, of composure and agitation, succeed acts the most strange and extravagant; entirely contrary to the well-being and interests of the patient. The alarm and disquietude, the warnings and advice of friendship, paternal tenderness, and love, oppose, irritate, and provoke the patient, exciting him, by slow degrees, to the highest pitch of mania."

In another class of cases, the premonitory symptoms are characterized by gloom and despondency,—the reverse of the supervening maniacal excitement.

Occasionally, there are cases, as the last-quoted writer has observed, in which persons "sink into a deep stupor, appearing to be deprived of every thought and idea. They do not move, but remain where they are placed, and require dressing and feeding. The features of the face are contracted, and the eyes red and glistening. Suddenly, mania bursts forth in all the strength of its delirium and agitation."

The physical symptoms by which a state of mania is ushered in, also vary. In the majority of cases, there is, early, a more or less marked departure from the individual's former state of health. Insomnia is one of the most important symptoms. The condition of the tongue, skin, and hepatic secretion, is usually more or less deranged. There may be but slight fever.

Sometimes, however, the invasion of mania is characterized by acutely febrile symptoms. There are also, in some instances, decided indications of cerebral congestion.

In not a few instances, the symptoms are referred by the patient to the abdominal organs; in some, a remarkable sensation is experienced at the epigastrium, extending thence upwards to the head.

The symptoms displayed when the disorder is fully developed are by no means uniform, being determined, in part, by the patient's natural constitution of mind, and partly by the degree in which the several faculties and emotions are relatively disordered. The perceptions of the patient, whether primarily or secondarily affected, may, by their morbid action, convey to him a hallucination or illu-

sion which shall be sufficient to determine the particular character of his demonstrations. We have witnessed, in a patient, the most violent actions and the most abusive language result from the fear, that those who approached her, would tread on certain celebrated personages whom she saw in miniature form before her, on the floor of her apartment; and it is of very frequent occurrence for a maniac to perceive, in his medical attendant, the lineaments of some other person, towards whom he entertains vindictive feelings, and, in consequence of this illusion, to vent his rage upon him in every possible way.

Innumerable are the delusions which affect the course of thought and conduct pursued by the patient. Should he believe that he is about to reform the state of society (the prominent symptoms of Dr. Arnold's "scheming insanity"), he overflows with his benevolent plans, projects, and intentions, all devised for the certain amelioration of mankind, to which, if we will not listen until the description is concluded, or if he should be thwarted in his endeavor to carry into execution these impracticable schemes, a violent explosion of passion, accompanied by imprecations, and perhaps a display of his pugilistic powers, will probably be the termination, for the present, of his expansive philanthropy; and the seclusion-room becomes the receptacle of the reformer of the world. He is bent on destroying whatever lies within his reach; his clothes, if not sufficiently strong, are sacrificed to his rage; and the scraps of paper on which he has so ingeniously designed the means by which his ideas may be realized, the letters to the Queen and Prime Minister, in which he has so conclusively set forth the remedies for the relief of every human ill, are now, it is not unlikely, torn into a thousand pieces. If to this condition be added, dirty habits, or the dirt-eating propensity, a truly deplorable picture is presented of what the "lords of the creation" may become when afflicted with mental disease. Dangerous violence, destructiveness in regard to senseless objects, a total disregard of cleanliness and decency, vociferous denunciations, loud and threatening language, rapid and impetuous utterance, harsh voice, imprecations and stamping with the feet, now mark the climax of the paroxysm the madman labors under, in this marvellous disturbance of the emotions, involving, as it does, the overthrow of the moral, and the perversion of the intellectual portions of our mental constitution.

The face, and the whole external man would tell, were the patient

silent, of the commotion which is raging within. The tension of the muscles, the contracted brow, the flushed features, the brilliance and congestion of the eyes, the head thrown back in audacious contempt, or fixed in a menacing attitude, the disordered or even bristled hair, the puffing of the neck, and congested veins,—all indicate the mental tempest by which he is agitated.

The emotions thus aroused and excited, in the words of Shakspeare,—

> "Stiffen the sinews, summon up the blood,
> Lend fierce and dreadful aspect to the eye,
> Set the teeth close, and stretch the nostril wide,
> Hold hard the breath, and bind up every spirit
> To its full height——"

But it must not be inferred, from these descriptions, that every case of acute mania presents either such well-pronounced symptoms, or even precisely the same passions of the soul in diseased activity. And fortunately, raving madness is, at the present day, to be found (thanks to the altered system of treatment, and perhaps also to an altered—that is to say—more asthenic phase of disease in general), much better described in books than observed in our asylums for the insane. The statement made by Arnold in regard to a patient laboring under "phrenitic insanity," that "he raves incessantly, or with short and those rarely lucid intervals, either about one or various objects; and laughs, sings, whistles, weeps, laments, prays, shouts, threatens, attempts to commit violence either on himself or others, or does whatever else the nature of his delirium prompts him to," is not applicable to nearly so large a proportion of cases of insanity as it was when Arnold wrote. The student in quest of a graphic picture of mania may read Chiaruggi's description (cited by Prichard, "Treatise," p. 76); since he may have some time to wait before he can witness its counterpart in the realities of asylum life.

Perhaps the most remarkable fact, in regard to the connection between the mental symptoms developed in mania, and the physical health, is the slight degree in which the latter is endangered, or even (it may be) materially disturbed. Careful notes taken of the state of the tongue, pulse, the renal secretion, and the alvine evacuations, in a condition of great excitement, and compared with notes taken of the same patients when convalescent, will sometimes fail to show that change, which would appear to be commensurate with the altered physical condition of the patient. This statement must, of course,

be so far qualified, that the muscular exertion and rapid locomotion connected with the period of actual violence, necessarily induces some temporary changes in the physical state, such as heat of the skin and acceleration of the pulse, which, however, cannot be regarded as other than the natural effect of certain actions; which effect would take place in individuals performing them, although in perfect health. And it is further sometimes observed, when physical disorder has been marked, that, in the change from excitement to tranquillity, there is a *persistence* of morbid physical phenomena; that is to say, some morbid physical symptoms were not wanting in the maniacal stage, but they did not pass away immediately on the subsidence of the excitement;—a fact which, to some extent, is explained by supposing that the physical symptoms induced by the cerebral irritation, had not had time to subside, although their immediate cause had disappeared. Dr. Conolly, after stating that he has attempted to convey an idea of the symptoms of acute mania, observes, "that even acute mania is not always accompanied by the ordinary external signs of excitement. It would seem as if we had yet to learn the real symptoms of cerebral irritation. Certainly, in recent cases of mania, —cases which had not lasted more than six weeks, and in young persons in whom I have since seen the maniacal attack pass into dementia,—I have known the most acute paroxysms of mania exist, rapid and violent talking, continual motion, inability to recognize surrounding persons and objects, a disposition to tear and destroy clothes and bedding, without any heat of the scalp or of the surface, without either flushing or paleness of the face, with a clean and natural appearance of the tongue, and a pulse no more than 80 or 85." This is, however, exceptional; and we believe that, in a very early stage (often prior to admission into an asylum), well-marked physical symptoms are rarely wanting; afterwards, the system begins, as it were, to tolerate the excitement to which it is subjected. A case lately seen at the house of the patient, illustrates the foregoing, well; and it illustrates another fact, which is, that in the onset of the attack, the symptoms may be those chiefly of irritation, while in the course of a few days, they become much more decidedly febrile in character. The patient—a young man—complained, in the first instance, of feeling generally ill, and was unusually nervous, fearing to sleep alone, &c. His pupils were dilated, the conjunctiva pale, the water copious and light in color, and the pulse about 80. In a day or two, the mind became more affected, and the symptoms of acute mania set in.

With these psychical symptoms, the conjunctiva became intensely injected, the urine scanty and high-colored, the pulse more frequent, and the head very hot. The tongue, which was foul before, became increasingly so, and red. For several days, the patient was acutely maniacal; after which, the excitement abated, and, coincidently with this abatement, the tongue became cleaner, the pulse slower, the conjunctiva paler, and the urine more copious.

What, then, are usually the evidences afforded by the physical symptoms of the patient, of his maniacal condition? Drs. Leuret and Mitivié have made some very careful observations on the pulse in mania, and have arrived at the conclusion, that the mean number of pulsations in a minute is 90, being about 15 above the average of the healthy adult.[1] According to Dr. Conolly, the pulse is frequently quick and feeble, seldom below 96, often as high as 120, variable, and readily increased in rapidity. It is difficult, however, to know, as has before been intimated, how much of this increased frequency is due to muscular exercise and other accidental circumstances, and how much to the disease itself. Jacobi thinks, that the condition of the pulse in mania does not so much indicate the state of the patient's mind, as the physical disorder existing with, and probably the cause of it. He regards the observations of Leuret and Mitivié as defective, and appears himself to have arrived at negative, rather than positive results. Dr. Foville has made observations on the frequency of the pulse in the insane generally. He took sixty-two patients (male and female), promiscuously, chronic and acute cases, and found the average pulsations to be 84 in a minute. Guislain thinks, that cerebral excitement is generally proportioned to the quickness of the pulse. "Occasionally," he adds, "it is slow, as in some cases of melancholy and ecstasy, but then there is a peculiar rhythm; each pulsation, even when the contraction of the heart does not indicate disease, presents a certain energy, in some degree, convulsive. Occasionally, the pulse is slow, from a diminution of cerebral excitement. Scarcely ever is there either hardness or fulness of the pulse."

The *skin* is sometimes moist and offensive to the sense of smell, sometimes dry and harsh. The former condition is, occasionally, the cause of as diagnostic an odor as the never-to-be-forgotten efflu-

[1] Dr. Guy made observations on the pulse of fifty persons free from mental or bodily disease; and, when compared with the results of Leuret and Mitivié, it would appear, that "it is only between 80 and 90 pulsations that there is any great excess on the side of the insane."—*Forensic Medicine*, p. 270.

vium attendant upon a variolous patient; and is then immediately observed on entering a room where the maniac has been for some hours, and especially during the night. The room smells like a mouse-trap. Dr. Jacobi, however, inclines to doubt whether there is anything special in it.

The *bowels* are sometimes relaxed for a considerable period in mania, but constipation is more usual; but, whether loose or confined, there is very frequently decided evidence of gastric and hepatic derangement. The dirty habits of maniacs are referred, by Calmeil, to two causes,—forgetfulness and design, but not to any paralysis of the *sphincter ani*. Dr. Jacobi found, out of fifty cases, the bowels inactive in twenty instances, regular in seventeen, and of normal form; while, in thirteen, the stools were decidedly unhealthy, and, in nine of these, irregularly relaxed and confined.

The *urine* is frequently sufficient in quantity, without being high-colored; at the same time, during an accession of violence, it is often more scanty, and deeper in color. Some years ago, Drs. Sutherland and Rigby examined the urine of a large number of patients at St. Luke's, and found that, in 100 cases of mania, it was of "dark color" in 52, and deposited a sediment in 87 instances. Incontinence of urine is common, and may, in most instances, be explained, on Calmeil's supposition in regard to the fæcal evacuations. Dr. Sutherland, in conjunction with Dr. Beale, has recently made a series of experiments on the urine of maniacal patients, and has arrived at the following conclusions:

"1. A plus quantity of phosphates exists in the urine, in the paroxysms of acute mania.

"2. A minus quantity exists in the stage of exhaustion in mania, in acute dementia, and in the third stage of paralysis of the insane.

"3. The plus and minus quantities of phosphates in the urine correspond with the quantitative analysis of the brain and of the blood; for a plus quantity of phosphorus is found in the brain, and a slight excess of albumen in the blood of maniacal patients; and a minus quantity of phosphorus and albumen is found in the brain of idiots; and a minus quantity of albumen in the blood of paralysis of the insane.

"4. The plus quantity of phosphates in the urine of cases of acute mania, denotes the expenditure of nervous force, and is not a proof of the existence of acute inflammation in this disease." Contrary to the conclusion at which Erlenmayer arrived, namely, that the urine

is generally alkaline in recent cases of mania, Dr. Sutherland concludes that it is generally acid. "I find that in 125 cases of recent mania, admitted during two years, under my care, into St. Luke's Hospital, the urine was acid in 111 cases, neutral in 1, alkaline in 13; being in the proportion of $88\frac{4}{5}$ per cent. acid, $10\frac{1}{5}$ alkaline, and, omitting fractions, 1 neutral; whereas in 100 cases of chronic mania and dementia under my care at the same time, the urine was acid in 61, neutral in 6, alkaline in 33; and in 25 cases of paralysis of the insane, the reaction of the urine was acid in 12, neutral in 1, alkaline in 12."

The *tongue* is usually redder than it should be, its muscular tissue firmer, and its papillæ unduly prominent. Of 50 cases of acute mania examined in this respect by Jacobi, the tongue was in 17 instances very foul, white or tawny, gray or yellowish-gray, but in no case dry, although frequently it was but little moist; in 16 cases the tongue was slightly furred, and in the remaining 17 it was quite clean. In the same number of cases, the breath was in 20 sweet, in 15 somewhat offensive, and in the same number decidedly so, some of these being "exceedingly sour." In regard to the saliva, the same observer found out of 50 cases, that it was excessive in quantity in 21 instances (in 2 of which it was only so during the paroxysm), and slightly increased in 4.

As a rule, the appetite of maniacal patients is great, and often excessive; more so at the onset, and during a paroxysm, than when the patient is calmer. A maniac may refuse food altogether, but he rarely persists so long as to occasion any danger. Referring to Dr. Jacobi's 50 cases, we find that in 23 the appetite was normal, in 13 it was voracious; in 7 it was at first poor, and subsequently excessive; in 3 it varied, in 2 the appetite was increased during the exacerbations, and in the remaining 2 it was very bad.

Thirst was a prominent symptom in 7 cases, in 9 there was less than usual, and the remaining 34 did not vary from a state of health in this respect.

The patient generally gets thinner; the same remark obviously applies here that was made in regard to the pulse, that this may result entirely from circumstances which are associated with, but are not essential to, the disease. In some cases, there is marked emaciation. In 21 of Jacobi's 50 cases, there was very decided evidence of defective nutrition, and in 15 this was in some degree the case; in 15 cases there was more or less evidence of dyscrasia, and in 14

the complexion was sallow or earthy, with a dark areola under the eyes.

Extreme, and sometimes sudden, exhaustion, is a symptom always to be feared, and carefully to be watched, in the progress of mania. Dr. Conolly records seven cases in which it proved fatal, one of which is so instructive, that we shall cite it in illustration here. "A male patient, aged thirty-six, a coachman, lost his situation, and became maniacal in consequence, threatening the life of his wife, trying to get out of the window, and saying that the devil was in his room. When admitted, about a fortnight after his attack, he was thin, pale, restless; always talking incoherently, or singing; his tongue was white, but it soon became dry and coated, and then in a few days moist. At first he refused food, then took it freely; the bowels were costive, his voice was hoarse, the pulse at first 96, soon afterwards 120, and always very feeble; he could give no distinct answers. Here was a case of recent mania from a moral cause. Leeches were applied to the head; he had warm baths; croton oil was given when food was refused; the tincture of henbane at night, and, after a trial of this medicine, porter; but he sank rapidly, became quiet and sleepy, and died ten days after admission." (*Lancet*, 1845.) Pinel informs us that an Austrian prisoner was brought to the Bicêtre, who was, for two months, in a state of violent and perpetual agitation, unceasingly singing or crying, and breaking to pieces everything that came in his way. "His appetite was so voracious that he eat four pounds of bread daily. On the night of October 25th, the third year of the republic, the paroxysm subsided. In the morning he was observed to be in full possession of his reason, but in a state of extreme exhaustion. After breakfast, he walked for a short time in the court; on returning to his apartment, in the evening, he complained of a sense of chilliness, which we endeavored to remedy by increasing his bed-clothing. The keeper, on going his round some hours afterwards, found the unfortunate man dead in his bed, in the position in which he had left him." This case is adduced by Pinel, rather in illustration of the effect of severe cold, than of simple exhaustion.

Dr. Bell, of America, has specially called the attention of the profession to a form of mania in which the disease runs a rapid course, and is attended by extreme exhaustion after excitement. In "Bell's disease" (as it has been called), the attack is sudden; and loss of sleep, delirium, and loathing of food, are prominent symptoms. Ray

regards such cases as identical with what Abercrombie describes as "a dangerous modification of meningitis," which is liable to be mistaken for mania.[1] Dr. Benedict considers that the cases which he has reported under the term "exhaustive mania," are examples of Bell's disease; but Dr. Ray thinks their identity improbable, since Benedict's cases recovered, and Bell's died. Dr. A. V. Williams refers to the same category, what he calls "typhomania," from the typhoid character of the symptoms. This, also, Dr. Ray regards as distinct from Bell's disease.

The diversity of symptoms in mania may, to a certain extent, be explained by the well-known fact, that an equal amount of excitement may result from two distinct and opposite conditions of the system; excessive nervous action often coexisting with deficient nervous power. This it is most important ever to bear in mind. One patient may be mad from an excess, another from a deficiency, of vital force. The one may require the lancet, the other stimulants. There may be a surplus nervous energy and excitement, and there may be a state of nervous debility and consequent irritation, precisely opposite in its nature. We may very properly speak, therefore, of *sthenic* and *asthenic* mania, both being still acute. To the former, the description already given of the physical indications, more especially applies. In the latter, the pulse is often very feeble, although frequent; the tongue is decidedly pale, thin, flat, flabby, and probably indented at the edges; the lips pale; the conjunctiva watery, and either pale, or if vascular, not presenting the same bright red injection which is generally present in acute sthenic mania; the pupil is not so much contracted, and it may be dilated. In books, a dilated pupil is sometimes mentioned as characteristic of mania, but this is by no means the case; and, when it is present, it will usually be found in mania of the asthenic variety.[2] The scalp may, or may not, be hotter than usual; and in regard to this, and every other symptom, it may be observed, that no just inference can be drawn from any one of them alone; they must be judged of in their entirety.

[1] Dr. Watson supposes that Abercrombie was describing ordinary *delirium tremens*.

[2] Dr. Pliny Earle, however, in an excellent paper in the *American Journal of Insanity* (April, 1854), observes: "In many cases of the most furious mania, and that too, not unfrequently, in robust or plethoric persons, the pupil remains of its natural size. Sometimes, it is even dilated. The cases in which it is generally most contracted are those of slender, nervous, perhaps debilitated persons, in whom there are various evidences of high excitability, and who not only tolerate, but require a tonic, sometimes a stimulant treatment."

In regard to the course which acute mania takes after it is established, it may either yield rapidly to the treatment; may end in death by exhaustion; may become chronic; or may terminate in melancholia, or dementia. Esquirol was of opinion that the majority are cured at the termination of the second or fourth month of treatment. Guislain's experience is to the effect, that while an acute attack of mania may terminate in three or four days, it most frequently does so at the end of three months, frequently, also, at the end of six or nine. After two years' continuance, he has rarely seen mania cured. Esquirol has seen cures after two or three years' continuance; Brierre de Boismont after twelve; and Pinel after twenty-five years. Persons generally estimate the danger of mania by its intensity; but, in general, the probability of cure is rather in proportion as the excitement involves the whole mind, and not any single faculty. At the asylum at Ghent, 7 out of 10 cases of mania recover, some of these, sooner or later, relapse, returning to the asylum after an absence of one, two, four, seven, and ten years. Guislain thinks there is a good deal of periodicity in regard to the return of the attacks. It is generally said, that one-third of maniacal cases are intermittent. The paroxysm has been observed to return at various periods, occasionally regular, as after an interval of a month or a week; and sometimes it assumes a quotidian, tertian, or quartan type. A man is attacked at twenty-six, at thirty, and at forty years of age; the probability of relapse depending, to some extent, on the patient's age, his constitution, and the circumstances by which he is surrounded. In some cases, he has observed mania to return every four, in others every three months, and in others every month. This is more especially the case when complicated with epilepsy; in regard to which complication it may be stated, that out of four hundred patients at the Salpêtrière, fifty were maniacs. The connection between lunar influence and the return of maniacal paroxysms is not yet sufficiently well established. The remissions in mania are not the same, in regard to the period of the day, as in melancholia, in which the exacerbations usually take place in the morning. "We observe," says Dr. Conolly, "in a great number of recent cases of mania, that the patient is tolerably quiet all day. A few are maniacal in the daytime, and yet at night sleep well; some have an alternate noisy and quiet day. . . . It has been long known by those conversant with the habits of the insane, that many of them, during these paroxysms of excitement, have an aversion to lying down, and manifest

a sort of instinctive avoidance of a horizontal position." However much the patient may have had the aspect of health during the early period of the attack, it almost invariably happens that, when it becomes chronic, he has an ill look, a haggard expression, makes little red blood, is cachectic; and although, in some instances, among a group of patients, the subject of chronic mania does not attract any special attention as being out of health, and has not any prominent morbid symptom, he would, were he placed by the side of a man enjoying robust health, present a sufficiently striking contrast. He would look etiolated.

Mania exhibits a considerable tendency to pass into dementia. Of 49 cases of mania admitted into the Retreat, and which ultimately proved fatal, the following was the state of mind of the patients at the period of death. In 30, the *form* of disorder was unchanged, 8 of whom had decidedly improved, and 22 were no better. In 19, the form of mental disorder had changed; 16 *into dementia*, and only three into melancholia. Again, of 91 patients in the Retreat in 1840, 38 had been admitted in a state of mania, of whom 11 had passed into dementia, and 27 were still examples of mania. (Statistics of Insanity, Tab. 33, 45.)

It fares, indeed, with the patient after an attack of mania, as with a city or garrison after the horrors of an assault. The milder but more permanent supremacy of the enemy may succeed; or the whole may present but a heap of smouldering ruins; or the reaction of native strength having repelled the foe, there may be more or less of obvious dilapidation to mark the fierceness of the conflict.

The mortality at the Retreat of those admitted during a state of mania, during forty-four years, was 3·99, while in melancholia, it was nearly double this,—namely, 6·96. In regard to its frequency, it may be stated, that at the same institution, and during the same period of time, 615 cases were admitted, of whom 277, or about 45 per cent., were examples of mania, offering a contrast to melancholia, of which there were 35 per cent. The two sexes appeared to be equally the subjects of mania, while Esquirol considered the male sex the most liable. In regard to the period of life during which the greatest number of persons are attacked, the tables prepared by the last-mentioned writer go to show, that it is very considerable between twenty and twenty-five, still more so between twenty-five and thirty; and that, while the proportion increases from fifteen to thirty, it decreases from thirty to sixty and upwards.

An interesting case of mania, occurring in a child only six years old, was admitted into Bethlem Hospital in 1842. "When admitted her conduct was violent and mischievous,—striking those about her, tearing her clothes, and destroying everything within her reach. . . . Sixteen days after her admission, she was attacked with diarrhœa of a mild character, from which she recovered at the end of a few days. Soon afterwards, a considerable improvement took place in her general behavior, and she began to pay attention to the directions of one of the convalescent patients. . . . She still continued decidedly insane. She could not be induced to employ herself in any way, and was subject to violent and unaccountable outbursts of passion, in which she tore her clothes, and bit and scratched all who attempted to restrain her. After she had remained about six months in the hospital, she became much more docile, and began to employ herself in sewing, &c. From this time, also, a marked improvement took place in her manner and conduct, until she was reported well, after having been about twenty months under treatment."

General paralysis may supervene upon mania. Hemiplegia is rare, and apoplexy seldom occurs under such circumstances. Abdominal and pulmonary affections are the more commom physical complications.

In regard to the causes of mania, among those termed moral may be enumerated anxiety, disappointed affections, jealousy, excessive joy from prosperity, &c., any intense mental emotion or strain on the intellectual powers, fright, ambition ungratified, wounded vanity or self-esteem. Among physical causes, hereditary predisposition, intemperance, injuries of the head, fever, disappearance of a cutaneous eruption, erysipelas, retrocession of gout, suppression of the catamenia, parturition, lactation, abuse of mercury, &c.

Section VII.—*Of Puerperal Insanity.*

In speaking of the causes of mania, parturition and lactation were mentioned among others. The excitement resulting from the puerperal state is so important, that it merits our special attention. It is a disorder which invades the sick-chamber at a time when it is most acutely felt; nor is it of very rare occurrence. Thus, during five years, one-eighth of the females admitted into Bethlem, were the subjects of puerperal insanity (not mania only). At Salpêtrière, a

twelfth, and—during some years—a tenth of the admissions (female) were of the same nature; and, in private practice, Esquirol met with a still higher proportion. It is a remarkable fact, however, as has been pointed out by Dr. Reid, that in lying-in hospitals, the number of patients who are so attacked is very small. He states, that at the General Lying-in Hospital, Westminster, in which they remain for three weeks after labor, out of 3500 who were delivered there, only nine were afflicted with insanity. The experience of several other large institutions was to the same effect. We do not observe that Dr. Reid offers any explanation. It might, perhaps, be most satisfactorily accounted for, in connection with the very favorable circumstances (such as quiet, good nursing, and sufficient nourishment), which surround the hospital patient, as compared with those of a patient of the same destitute class at her own home. Nor must it be overlooked, that the absolute number of cases of puerperal insanity may be large, while, as compared with the enormous number of cases of labor, it may appear small. Although it may seem extraordinary that, in Esquirol's experience, patients of the higher class, among whom quiet, good nursing, and sufficient food were not wanting, suffered more from this malady; it is not to be forgotten, that here these favorable circumstances may have been counterbalanced by others of an unfavorable description, more or less connected with luxurious living. The experience of the Salpêtrière and of Bethlem Hospital is, we think, considerably above that of other asylums; in most of which, we believe, it will be found, that the number of cases of insanity arising from pregnancy, parturition, and lactation, are from about one-fourteenth to one-twentieth of the females admitted.

It must not be supposed that mania is the only form of insanity which results from this condition of the system in women. On the contrary, melancholia, delusional forms of insanity, and even dementia, may ensue. Mania, however, is undoubtedly the most frequent form of mental alienation. Of 57 cases under Dr. Burrows's care, 33 were maniacs; in 8, mania and melancholy alternated; and in 16, melancholia was the form of the disorder. Esquirol found that out of 92 cases, 49 were maniacs, 35 were monomaniacs (including melancholiacs), and eight afforded examples of dementia. Of 19 cases in the Grove House Asylum, reported by Dr. Palmer, 15 were examples of mania, and only 4 of melancholia.

This term, puerperal madness, is by different writers employed in

a more or less comprehensive sense. It is frequently made to comprise: (1), cases occurring during utero-gestation; (2), those occurring within a short period (a fortnight or three weeks) of parturition; and (3), those arising during the period of lactation. But it is more especially intended to imply, by this term, those cases referred to in the second class; and among these, a larger proportion of examples of mania exist, than when insanity develops itself in connection with lactation; then melancholia is more generally manifested.

Of 92 cases collected by Esquirol:

16	became insane	from the 1st	to the 4th day.
21	"	" 5th	" 15th "
17	"	" 15th	" 16th "
19	"	" 60th day	to 1 year.
19	"	immediately after forced or voluntary weaning.	

From which it will be seen, that upwards of 40 per cent. of the cases occurred during the first fortnight after labor. Dr. Burrows thought the third and fourth day after confinement the most obnoxious to the invasion of this disease.

Of 66 cases reported by Dr. Macdonald, 29 became deranged within the first week after labor, and 15 during the next three weeks; that is, 44 cases during the first month. In the course of the second month, 5 cases occurred; and the general conclusion arrived at by this writer, is, "that the proportion increases from day to day, as we approach the day of parturition, and diminishes as we depart from it."[1]

The character of the mental disturbance in puerperal mania differs somewhat, but not in any very essential particulars, from that of mania arising from other causes. We think it is Dr. Gooch who makes the remark, that were any one conversant with mental maladies, to be introduced to a patient suffering from puerperal insanity, he would not be able to tell, without inquiry, that the case was of puerperal origin.

As Dr. Macdonald, however, observes, "in the acute form of the mania which succeeds parturition, we observe an intensity of mental excitement, an excessive incoherence, a degree of fever, and, above all, a disposition to mingle obscene words with the broken sentences; things which are rarely noted under other circumstances. It is true that, in mania, modest women use words which in health are never

[1] "Puerperal Insanity," by James Macdonald, M.D., formerly Physician to the Bloomingdale Asylum. *Psychological Journal*, No. 3, p. 534–5.

permitted to issue from their lips; but in puerperal insanity, this is so common an occurrence, and is done in so gross a manner, that it early struck me as being characteristic."

Before the mental symptoms are fully developed, the patient becomes uncomfortable, peevish, and restless, and cannot sleep; the head aches, and there is an altered expression of countenance. The milk and lochia are frequently either diminished or suppressed; the tongue is white; and the pulse is accelerated, usually irritable in character, rather than febrile. There is, however, a class of cases in which the pulse and other symptoms indicate an inflammatory condition of the system, and such cases are of a much more serious character. Dr. Burrows noticed them chiefly in connection with the secretion of milk (on the fourth or fifth day). Some of these are examples of phrenitis, and not properly of mania.[1]

"In the *acute* form or stage," observes Dr. Macdonald, "we shall find the pulse frequent, perhaps from 120 to 140, but feeble, like the pulse of a typhoid patient; in some cases, however, it may be full and strong; but these are exceptional cases, which prove the rule. We shall find the head and surface generally hot, but it is not the heat of febrile excitement, and is sometimes accompanied by cold extremities; we shall find great jactitation and restlessness, perhaps subsultus; the tongue coated and foul, and sometimes dry, and red and brown; the bowels constipated, and all the secretions depraved. These are the leading symptoms of the acute stage. In the *chronic* stage there is an entire absence of all febrile, as well as inflammatory symptoms."

As the patient attacked by puerperal madness, becomes more decidedly insane, "the talking is almost incessant, and generally on one particular subject, such as imaginary wrongs done to her by her dearest friends; a total negligence of, and often very strong aversion to, her child and husband are evinced; explosions of anger occur, with vociferations and violent gesticulations; and, although the patient may have been remarkable previously for her correct, modest demeanor, and attention to her religious duties, most awful oaths and imprecations are now uttered, and language used which astonishes her friends; the eye is wandering and unsteady, and the hearing most acute. The suicidal tendency is not uncommon, especially in

[1] Of 16,444 cases delivered at the Dublin Lying-in Hospital, three only are reported by Dr. Collins to have died of phrenitis.—(Dr. Reid.)

the cases of melancholia ; and it is important to recollect the fact in the treatment of such patients. In 111 cases of puerperal insanity at Bethlem Hospital, 32 were affected by it." (Dr. Reid.)

The mortality from puerperal insanity, is not on the whole large. Out of the 92 cases already referred to, only 6 died, and none within a period of less than six months after childbirth. Perfect recovery of the mental faculties follows in a large proportion of instances. Dr. Webster states, as the result of his statistics, that "three in every five cases of puerperal insanity may be confidently expected to recover within the year." Two-thirds of Esquirol's cases were cured within the first six months after the commencement of the attack. Of Dr. Palmer's 19 cases, 14 had recovered after four months' treatment, and 2 were convalescent. Haslam reports, that 50 out of 85 were cured at Bethlem, but Dr. Burrows's success was not at the same rate ; he cured 35 out of 57, of whom 28, or six-sevenths recovered within six months. At Bethlem, the largest number were cured during the fourth month. Eighty per cent. of Dr. Macdonald's cases recovered ; out of 53 recoveries, 34 took place within the first six months of the attack. Brierre de Boismont asserts that cases of puerperal insanity (exclusive of melancholia) have recovered under his care, on an average in about a week. He has always found refusal to take food a bad sign. To the foregoing statistics of Burrows, Haslam, and Esquirol, it should be added, what Dr. Gooch and Dr. Prichard have observed, that they do not lead to a prognosis even sufficiently favorable, inasmuch as cases are not usually admitted into asylums in a recent, and therefore the most curable stage of the disease. "Of the patients about whom," says Gooch, "I have been consulted, I know only two who are now, after many years, disordered in mind, and of them, one had already been so before her marriage."

CHAPTER VII.

THE STATISTICS OF INSANITY.

SECTION I.—*Of the Causes of Insanity.*

THE Causes of Insanity may be either *predisposing* or *exciting*. For example, a man may be in an exceedingly feeble condition of health, in which the death of a friend, or other domestic trial, may induce an attack of insanity, from which he would not have suffered, had he been in the enjoyment of sound health at the time of the event. In such a case, the predisposing cause of the patient's insanity was ill health, the exciting cause, domestic grief. Among the most important predisposing influences are,—hereditary predisposition, the seasons, marriage, age, sex, &c. Among the exciting are,—inflammation of the brain, intemperance, disappointed affections, &c. In different persons the same circumstance (intemperance, for instance) may have acted in the one as a predisposing, in the other as an exciting cause.

PREDISPOSING CAUSES.

Hereditary Predisposition.—Esquirol observes, that, of all diseases, insanity is the most hereditary. "Although observed 337 times among 1375 lunatics, I am persuaded that this predisposing cause is still more frequent." This is nearly one-fourth of the cases in which the cause was ascertained, and 21 per cent. of the admissions.

Guislain estimates hereditary predisposition at one-fourth of the admissions (56 out of 224 patients). He thinks it probable that it was actually 30 per cent. The same writer states, that Holst traced it in 323 out of 467 cases, or 69 per cent.; and that Jessen discovered

it in 360 out of 522 cases, or 65 per cent. Dr. Parchappe traced it in only 15 per cent. of the admissions.

MM. Aubanel and Thore, traced hereditary predisposition (including the collateral as well as direct) in 24 out of 549 admissions at the Bicêtre, where, however, they state it is difficult to obtain reliable information on this point. These 24 cases were distributed as follows, as regards the form of the disorder: mania 15, monomania 2, melancholia 4, dementia with paralysis 3.

M. Michéa believes, that at least one-half, if not three-fourths, of the insane, have had, or still have, some members insane in their family. Dr. Damerow traced in 773 patients admitted at Halle, hereditary predisposition in 187, or about one-fourth. Dr. Webster, in a paper on the Statistics of Bethlem Hospital, states, that 32 per cent. of the patients had hereditary predisposition.

The experience of the Retreat, from 1796 to 1840, was as follows:

	Male.	Female.	Total.
Hereditary on the paternal side, ...	19	20	39
Do. maternal side, ...	17	23	40
Do. on both paternal and maternal sides, ...	3	3	6
Do. whether on paternal or maternal sides not known, .	32	36	68
Known to be hereditary, ...	71	82	153
Not known or stated to be hereditary, ...	152	164	316
	223	246	469[1]

From this, it appears that, in 153, or nearly one-third of the total number admitted, hereditary predisposition was traced. Dr. Thurnam observes, that those cases have not been considered of an hereditary character, the history of which was only characterized by the existence of insanity in collateral blood relatives; it being obvious, that cases of this description do not necessarily establish any direct hereditary transmission. He adds, that had these been included, the proportion would have been raised to about one-half or fifty-one per cent.

It must not, however, be overlooked, that a certain number of insane persons will necessarily have insane ancestors, without there

[1] We take this opportunity of acknowledging our obligation to Dr. Thurnam's "Statistics of Insanity"—a work unrivalled in this department, for original and laborious research.

being a necessary connection in the way of transmission between the ancestor and the insane descendant.[1]

In connection with this subject, there are three very interesting inquiries;—first, whether the insanity of the mother is more frequently hereditary than that of the father? secondly, in cases of hereditary transmission, is the disease of the mother transmitted to a greater number of the offspring than that of the father? and, lastly, is insanity more frequently transmitted from the mother to the daughters, and from the father to the sons?

To the determination of these questions, M. Baillarger has directed his attention, and the following are the results at which he has arrived:

"1. The insanity of the mother, as regards transmission, is more serious than that of the father; not only because the mother's disorder is more frequently hereditary, but also because she transmits it to a greater number of children.

[1] A mathematical friend would correct this source of fallacy approximately as follows: Assuming that there is no peculiar predisposition—no peculiar likelihood—that the descendants of persons insane will themselves be so, there is nevertheless a certainty that, in the nature of things, such will, in some instances, be the case. What is the probability, in any given instance, of this?—a probability which must be deducted from that actually found to exist as tabulated, in order to ascertain the amount of influence possessed by the *heritable* character of the disease. Now, in order to ascertain this probability, we must first define what are the limits of the terms descendant and ancestor. If simply parent and child be the relation considered, the question is very simple. If 1 person in n throughout the world, or the districts whence the statistics are derived, be insane, the probability that of three individuals—A, B, C,—selected at random, two at least shall be insane, *and that* A *shall be one of those two*, will be given by $\frac{2}{n^2}$. Now, if A be an insane person, and B and C his parents, we have here the probability that one or other of his parents (possibly both) would be insane. Now if we increase the number of persons included in the list of ancestors say to m persons, (A), B, C, D, E, F, . . . the probability that one at least of these m will be insane when A is so, will be $\frac{m}{n^2}$. And it is obvious that by increasing m sufficiently we can include not merely ancestors, but collateral relatives. For example: Assuming the proportion of insane persons in the district examined to be 1 in 500, and taking into account direct ancestors only for 6 generations back (126 in number), the probability that *one at least*, possibly more, of these 126 will have been insane *when the individual* himself is so, will be $\frac{126}{500000}$, or ·000255, or ·0255 per cent. In order, therefore, to make this source of fallacy important—on an assumption like $\frac{1}{500}$, we must take our line of ancestors back much further than six generations, or else include collateral relationships.

"2. The transmission of the mother's insanity is more to be feared with respect to the girls than the boys; that of the father, on the contrary, is more dangerous as regards the boys than the girls.

"3. The transmission of the mother's insanity is scarcely more to be feared, as regards the boys, than that of the father; the mother's insanity, on the contrary, is twice as dangerous to the daughters."[1]

It will be seen, from the following statement of the late Dr. Brigham (Report, 1847), that the two first of Dr. Baillarger's conclusions are confirmed by his experience.

"Of 1181 patients who have been at this asylum (State Lunatic Asylum, near Utica, U. S.), viz., 594 men and 587 women, 315 were known to have insane relatives. That many of the others were thus predisposed we do not doubt, but we were not able to learn anything respecting their relatives. 175 were known to have insane parents, viz., 79 men and 96 women. It would appear, from our inquiries, and they have been very carefully conducted, that insanity is a little more likely to be transmitted by the mother than by the father, and that mothers are considerably more likely to transmit it to daughters than to sons, while the fathers most frequently transmit it to the sons. Thus, out of 79 men, 42 have insane fathers and 35 insane mothers, and, in two instances, both parents were deranged; while, of 96 women, 37 had insane fathers and 56 insane mothers, and 3 inherited a predisposition to insanity from both parents."

Dr. Leubuscher, of Berlin, has written an interesting article on hereditary insanity, which will be found in the *Journal of Psychological Medicine*, April, 1848. In this article, he points out, among other important facts connected with hereditary transmission, that the lower forms of mental disease, as imbecility or silliness, and various forms of depression, appear, in a remarkable degree, to be of an hereditary nature; and also, that the outbreak of an hereditary disposition to insanity is especially connected with the processes of development, as the occurrence of puberty, childbirth, and the climacteric period.

Relative Liability of the Sexes to Insanity.—Cælius Aurelianus affirmed women to be less subject to insanity than men. This conclusion has been opposed by Esquirol, Copland, Browne, and others. Dr. Haslam likewise stated, that, "in our own climate, women are more frequently afflicted with insanity than men." Sufficient care, however, does not appear to have been taken to ascertain the relative

[1] *Annales Medico-Psychol.* 1844, p. 333. The reader may also consult an article in the *Allgemeine Zeitschrift für Psychiatrie*, 1848, p. 540.

numbers of males and females in the general population, a point obviously necessary to determine, before any just conclusion can be drawn as to the relative liability of the sexes to insanity. These writers found the existing number of female lunatics greater than that of the males, and hence arrived at the conclusion that the female sex is more subject to insanity than the male.[1] Dr. Thurnam, however, has clearly pointed out this source of fallacy, as well as that which arises from the fact that the mortality of insane men exceeds that of insane women by 50 per cent. Hence, it is obvious that Esquirol erred in comparing the *existing* instead of the occurring cases of insanity, in the male and female sexes. If, in our asylums women live longer than men, they will of course proportionately accumulate.

"In order that the comparison of the occurring cases be a strictly accurate one," observes Dr. Thurnam,[2] "the proportions of the two sexes at the several ages *attacked with insanity*, for the first time, should be compared with the proportions in which the two sexes at the same ages *exist* in the community in which such cases occur. The nearest approximation to this method which we have the means of employing is, by assuming that the proportions of men and women *admitted* into public institutions during extensive periods represent—as, on the whole, they probably do represent—the cases which *occur* for the first time."

From an examination of a table prepared by this writer, we ascertain that, in twenty-four of the thirty-two asylums which it comprises, there has been a decided excess of men in the numbers admitted. In many British asylums, the excess amounts to 25, 30, and even 40 per cent.; and, in the whole number of thirty-two asylums, there is an average excess on the side of the male sex of 13·7 per cent. In the nine English county asylums contained in the table, the excess amounts to 12 per cent. . . . Having thus shown that, in the principal hospitals for the insane in these kingdoms, the proportion of men admitted is nearly always higher, and, in many cases, much higher than that of women; and as we know that the proportion of men in the general population—particularly at those ages when insanity most usually occurs,—is decidedly less than that of women, we can have no

[1] According to the census of 1841, an excess of 4 per cent. of females existed, at all ages; and of 8 per cent. above 15 or 20 years.

[2] On the "Relative Liability of the Two Sexes to Insanity."—*Quarterly Journal of the Statistical Society of London*, December, 1844.

grounds for doubting that men are actually more liable to disorders of the mind than women."

From the same tables, it appears, that, in the asylums of the metropolis, the proportion of females admitted is much greater than in the provinces. This appears to be in part accounted for by there being a considerable excess per cent. (13 per cent. at all ages, and 19 per cent. at all ages above 20) of women over men in the metropolis. Hence, the experience of Bethlem and St. Luke's led Dr. Webster to the conclusion that no doubt can exist regarding the greater frequency of mental alienation among females than males.[1] Dr. Thurnam appears to regard it as probable, that the statistics of insanity in France, resemble, in this particular, those of the metropolis,[2] although, as has been pointed out, the method of inquiry adopted by Esquirol was vicious.

Dr. Jarvis, of Dorchester, Mass., has written an able treatise on the subject now under discussion; and after examining the statistics of asylums in Great Britain, Ireland, France, Belgium, and America, has arrived at the conclusion that "males are somewhat more liable to insanity than females." He very properly shows, however, that the causes of insanity which act upon males are more extensive than those which act upon females, and adds, that the above statement, in regard to the liability of the sexes, "must vary with different nations, different periods of the world, and different habits of the people."[3] On the whole, while it is clearly proved that, in general, fewer women, as was taught by Cælius Aurelianus, become insane than men, it is difficult to establish that the female sex is intrinsically less susceptible to the causes of insanity than the male, since the former is less exposed to those causes than the latter. At least, to establish the greater intrinsic liability of females, it must be shown that they are exposed to the predisposing and exciting causes of insanity to as great an extent as males.

Age.—During the forty-four years between 1796 and 1840, of those admitted at the Retreat, the greater number, one-third of the whole, were *attacked* between twenty and thirty years of age. Each subsequent decennial period is marked by a gradually decreasing proportion. Thus:

[1] "Medico-Chirurgical Transactions," vol. xxvi.

[2] Even in the metropolis, however, in the asylums of the middle and upper classes of society, 38 per cent. more males than females were admitted.

[3] "On the Comparative Liability of Males and Females to Insanity," Utica, 1850.

Of every hundred cases, at the origin of the disorder, there were, at successive decennial periods of life, as follow:

0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	
·96	12·77	32·53	20·	15·9	10·6	6·03	·97	·24	= 100[1]

Now, it is obvious that, to render these statistics of any value, they must be compared with the numbers living in the same community at the same periods of life. This means of comparison we afford in the following table:

Of every hundred individuals, there were living, at successive decennial periods of life, as follow:

0–10	10–20	20–30	30–40	40–50	50–60	60–70	70–80	80–90	
16·7	18·9	15·4	12·4	11·9	10·8	7·8	4·9	1·2	= 100

From which, it is evident, that the large proportion of persons who became insane (of those admitted at the Retreat), between twenty and thirty years of age, cannot be explained by the greater proportion of the number living at that period. On the contrary, there were more living under ten years of age, and between ten and twenty. These facts, therefore, exhibit an increased liability to insanity connected with the age between twenty and thirty; or man, during that period, is brought into contact with an increased number of the causes of insanity. It is probable, that it is the combination of these two circumstances which induces this result.

Esquirol, in determining this question of age, appears to have drawn his conclusions from the age of the patients when admitted. This, however, does not necessarily show the period of life at the origin of the disorder. His conclusions are as follows:

"1st. That the age which furnishes the greatest of insane, is—for men, between 30 and 40; while with women, it is between 50 and 60. 2d. That the age which furnishes the fewest is, for both sexes, infancy, youth, and advanced age. 3d. That among women insanity is manifested earlier than among men."[2] Esquirol's experience, in regard to the earlier occurrence of insanity among females, has not been confirmed by that of the Retreat, the statistics of which show that it occurs, on an average, at an earlier age among males.

The following table exhibits the ages, at admission, in decennial periods, of 7295 patients entering asylums in different parts of the world.[3]

[1] "Statistics of Insanity," p. 71. [2] "Malad. Mental." vol. i, p. 24.

[3] Supplied by MM. Aubanel and Thore, "Recherch. Stat. sur l'Alienation Mental." p. 33.

AGE.	Desportes. Bicêtre.	Esquirol. Charenton.	Bouchet. Nantes.	Debouteville. Rouen.	Vastel. Caen.	Bertolini. Turin	Bonacossa. Turin.	Greco. Palermo.	Dundee.	Beck. United States.	Holst. Norway.	TOTAL.
Under 20 years,	254	82	2	24	7	3	31	19	1	8	188	619
From 20 to 30	710	254	6	113	38	31	176	84	2	70	198	1682
" 30 " 40	1003	236	13	147	44	26	213	90	10	55	214	2051
" 40 " 50	687	188	9	115	32	17	119	62	4	43	150	1426
" 50 " 60	334	105	1	54	18	11	69	33	1	15	128	769
" 60 " 70	287	60	3	26	6	3	27	18	"	4	117	551
" 70 " 80	155	6	2	9	1	"	1	"	2	1	"	177
Above 80 years,	19	1	"	"	"	"	"	"	"	"	"	20
Total,	3449	932	36	488	146	91	636	306	20	196	995	7295

From this it appears, that the experience of Esquirol at Charenton gives, like that of the Retreat, a larger number of admissions between 20 and 30 years of age, instead of between 30 and 40; a period which, according to his total experience, furnished the largest number of admissions. The same is true, it will be seen, in the figures supplied by Bertolini and by Beck.

The general result, however, of this table, favors the opinion, that more patients are admitted (but not necessarily that their disorder originated) between the ages of 30 and 40; then follows, in order of frequency, the period between 20 and 30; and next, between 40 and 50. The table of admission of patients at Bicêtre, from 1831 to 1838, is to a certain extent, in accordance with these results.[1]

From similar inquiries which have been instituted, in regard to the ages most obnoxious to other diseases besides insanity, it appears that, among men, in Paris, the largest number are admitted into hospital between 20 and 25; from which MM. Aubanel and Thore draw the conclusion, that we must admit that the age between 35 and 40 exercises a special influence over the production of insanity.

Lastly, we may adduce the experience of the Bloomingdale Asylum, New York, whose statistics has been published by Dr. Pliny Earle. This, it will be seen, although report is made of the period of admission, and not of the origin of the disorder, accords with that of the York Retreat,[2] as regards the decennial period in which

[1] Recher. Stat. &c.; MM. Aubanel and Thore, p. 39.

[2] Dr. Hood, in his recent "Statistics of Bethlem Hospital," states that the experience of that asylum, during the last 10 years, is in harmony with that of the Retreat. (P. 22.)

the largest number of cases occur. The following is the order of frequency in 1710 admissions:

From 20 to 30 (maximum)	Under 20
" 30 " 40	From 60 to 70
" 40 " 50	" 70 " 80
" 50 " 60	" 80 " 90 (minimum)

It is striking to observe how much higher in the scale the period "under 20" is placed, than is the case in the statistics of the English and Continental Asylums.

Influence of the Seasons.—M. Parchappe has supplied us with some carefully prepared statistics on this subject. Thus, he found that out of 2669 admissions, the period of the year was as follows:

	During the Six Summer Months.		During the Six Winter Months.	
	No.	Prop. in 100.	No.	Prop. in 100.
Men, ...	779	56·0	612	44·0
Women, ...	668	31·3	610	48·3
Both Sexes, . . .	1447	542	1222	458

This result—the greater frequency of insanity in the summer months—accords with the formerly stated experience of Esquirol. He gives the following: "Admitted in the spring, 406; in the summer, 445; in the autumn, 365; in the winter, 341; and he concludes—1st. That the admissions are most numerous in the month of July, and during the summer quarter; that they are less considerable in the month of September, and during the winter quarter; that the more numerous cases of insanity which commence in the spring, arrive at their highest degree of frequency in the summer, diminish in the autumn, and still more so in the winter. 2d. That if the admissions of the two sexes are more frequent in summer, they are less considerable in winter for the men; while they are less numerous in the spring for the women."

Guislain states that of 224 admissions, 25 were in May; while, in other months, the number varied between 17 and 20. In the spring quarter, he admitted 61 patients; in the summer, 55; in the autumn, 58; and in the winter, 50. Obviously, he observes, there is a relation between the warmth of the atmosphere and mental disturbance. Periodical insanity is especially manifested in the spring. Atmospheric warmth induces agitation in the insane; a fall of temperature often calms them.

The question of the influence of climate would seem intimately connected with that of the seasons; but, as Guislain observes, "we do not, as might have been expected, find more insanity in hot climates than in cold. He regards this as a proof that it requires the predisposition to insanity before the injurious effects of heat can be experienced." "Insanity," observes Dr. Webster, "is a much more common disease in cold climates than in temperate or warm countries. In Sweden and Norway, a larger proportion of the inhabitants become mad, than in any other part of Europe. The disease is more frequent in North Germany than in the Southern part of that empire. Mania prevails more in Belgium than in France; in the northern department of which latter country, it is met with in a higher ratio than among the natives of the South. In Spain, the disease is less common than in France; while, in Northern Italy, insanity is reported to be twice as common as in the Southern part of the Italian peninsula. Again, on the Southern shores of the Mediterranean, the disease is still less frequent, as in Egypt, Syria, &c.; and, in Arabia, mania is so rare that it is seldom observed."

The results already stated, in regard to the influence of the seasons, are confirmed by the researches of MM. Aubanel and Thore, who give the following table of admissions at the Bicêtre, as well as the total admissions at a large number of asylums:

	MM. Aubanel and Thore. Bicetre 1831-38.	Various Asylums.
Summer (June, July, August), . .	1093	1818
Spring (March, April, May), . . .	997	1587
Autumn (Sept., Oct, Nov.), . . .	955	1415
Winter (Dec., Jan., Feb.)	886	1344
	3931	6164

MM. Aubanel and Thore observe, as the result of their investigations, that the month of June appears to have the most influence in producing insanity; then July and August; lastly, May and April; January having the least influence. Thus the maximum influence is exhibited in the summer, and the minimum in the winter months. Dr. Webster states that the experience of Bethlem Hospital is to the same effect. "This result," says he, "is certainly at variance with the generally entertained opinion, that madness prevails most commonly in London during the cold weather of winter, when suicides are also said to be frequent, especially in the murky month of November. Such an assumption is, however, erroneous, seeing insanity is not only met with to a greater extent during hot weather but more

cases of self-murder are usually recorded, both in June and July, than during the colder season."[1]

Town and Country Life.—Dr. Prichard states, that "a most remarkable difference is found in the proportional number of lunatics in agricultural and in manufacturing districts. Previous to inquiry, we should conjecture that the causes of insanity would have more influence, and the disease be more prevalent, in a manufacturing than in an agricultural population; but the contrary is the fact. Thus, in twelve counties in England, of which the inhabitants are chiefly employed in agriculture, the entire population being 2,012,979, the insane amount to 2526—giving about one lunatic to 820; while in twelve counties where the majority of the inhabitants are otherwise employed, including Cornwall, where a great number are miners, the entire population being 4,493,194, the insane amount to 3910, or nearly 1 in 1200. In Scotland, and in most of the Welsh counties, the population is chiefly agricultural; and this may, perhaps, account for the greater number of lunatics in the population of those parts of the island." ("Treatise," p. 334.)

Dr. Parchappe has arrived at a different conclusion to that of Dr. Prichard, so far as refers to the population of the Lower Seine; in support of which he gives the following tabular analysis:

	Population.		Admissions at St. Yon.		Prop. per 1000.	
Town of Rouen,	96,002		965		10·5	
" Havre,	27,254		106		3·90	
" Dieppe,	16,443	54,345	79	1203	4·80	7·79
" Elbeuf,	14,646		53		3·61	
Arrond. of Rouen,	107,573		156		2·41	
" Havre,	78,692		85		1·08	
" Yvetot,	124,208	480,881	156	581	1·25	1·42
" Dieppe,	91,954		102		1·10	
" Neufchât,	78,654		82		1·04	

To these figures Dr. Parchappe adds: "It is proper to note that, for many years, the hospital of Havre has provided a special quarter for the indigent insane of the town; so that, during this period, no patients of this description have been sent to St. Yon. This exceptional circumstance accounts for the small proportion of insane which our abstract exhibits for the second town of the department.

"Thus we may legitimately conclude, from the facts collected at the asylum, that the circumstances which surround the inhabitants of the great centre of population in the Lower Seine, constitute for them, a predisposing cause of mental alienation."[2]

[1] In *Psychological Journal*, Oct. 1854, p. 626.

[2] "Notice Statistique sur les Alienes de la Seine Inferieure," p. 30.

The large experience of Dr. Guislain has led him to the same result; thus he observes that, in Ghent, there are three insane to every 900 of the population; while, in the rural population of the whole province, there is only one to every 1400 of the population. He believes that this proportion obtains generally in town and country districts.

The same holds good in regard to the population of the department of Meurthe and the town of Nancy, there being in the former a proportion of 1 to 1468, and in the latter 1 to 500 inhabitants.

The following table exhibits the proportion of insane persons, with respect to town and country, in regard to Norway:

	Males.	Females.	Total.
In Towns, ...	1 to 349	1 to 406	1 to 377
Country, ...	1 to 320	1 to 339	1 to 329
Whole Kingdom, . .	1 to 322	1 to 345	1 to 334

For the further consideration of this subject, and for the reasons which induce us to arrive at an opposite conclusion to that stated by Sir Andrew Halliday, the reader is referred to the chapter on the relation between civilization and insanity.

Occupation.—It is much to be regretted that any inferences should be drawn from the absolute number of patients following particular occupations, instead of from the proportion to the population at large. Thus, if we take the number of clergymen and lawyers admitted at Bethlem Hospital, during a certain period, we find them equal; and the inference might be drawn that they were equally liable to mental disease. The following table enables us to show the fallacy of such a conclusion. From this, it appears that lawyers are about doubly liable (as might have been anticipated) to this disorder. It is true that, on comparing these two professions with that of medicine, both the absolute and proportionate result point in the same direction; but it might have been otherwise. There are some circumstances brought out by the following table (the first of the kind, so far as we are aware, which has been constructed), which require to be received with caution, as regards inferring the deleterious effects of a particular occupation on the mind, on account of the difference being so great, in some instances, that one supposes it probable that more extended knowledge would modify it. For example, —many more drapers than grocers would appear to become insane; but it is difficult to believe that the circumstances of the two trades

are so different as sufficiently to account for this result. Again, it is remarkable that so small a proportion of those engaged in the sale of intoxicating drinks would appear to become insane. The small proportion of agricultural laborers is a highly interesting fact in connection with the question of the relative liability to insanity of persons living in the agricultural and manufacturing districts. Taking agricultural laborers and farmers as a class together, the proportion per 10,000 would be only 6·3. It would seem to be altogether in favor of the conclusion arrived at, in another part of this work. It is still further confirmed, by the high position in the scale, of merchants and commercial clerks.

With these preliminary observations, we direct the reader's attention to the subjoined tables, in which are given the proportion of lunatics in asylums to the numbers engaged in various occupations in England and Wales.

OCCUPATION. (*In Classes.*)	Proportion in 10,000 Lunatics in Asylums.	
	MALE.	FEMALE.
Laborers and Mechanics (branch undefined, and exclusive of those engaged on land),		146·3
Persons of rank or property, not returned under any occupation,	95·7	
Persons engaged about animals,		40·3
Laborers and Mechanics (branch undefined and exclusive of those engaged on land),	40·2	
Persons entertaining, clothing, and performing personal offices for man,		36·98
Learned professions,	34·38	
Persons of rank or property not returned under any occupation,		32·7
Persons engaged in the general or local government of the country,	26·91	
Persons who buy or sell, keep, let, or lend money, houses, or goods,	26·6	
Persons engaged in literature, fine arts, sciences,	22·6	26·2
" " in defence of the country,	23·32	
" " in art and mechanical produce,		17·8
" " in learned professions,		15·06
" " about vegetable matters,	14·5	
Persons entertaining, clothing, and performing personal offices for man,	13·94	
Persons engaged in conveyance of men, animals, goods, messages,	12·06	
Do. do. do. do.		12·0
Persons who buy or sell, keep, let, or lend money, houses, or goods,	10·3	
Persons engaged in art and mechanical produce,	10·6	
" " working or dealing in animal matters,	10·2	
" " do. do. vegetable matters,		10·2
" " using or dealing in minerals,		7·5
" " do. do. do.	6·9	
" " working or dealing in animal matters,		4·02
" possessing or working the land,	3·3	
" do. do. do.		1·3

OCCUPATION. (In Sub-Classes.)	Proportion in 10,000 Lunatics in Asylums. M.	F.	OCCUPATION. (In Sub-Classes.)	Proportion in 10.000 Lunatics in Asylums. M.	F.
Seamstress and milliner, .		84·9	Commercial traveller, . .	12·3	
Actor and engaged about theatre, ...		72·08	Engaged about books, . .		12·2
Merchant, ...	53·4		Grocer, ...	12·2	
Tobacconist, ...		52·4	Gardener, ...	11·7	
Commercial clerk, ...	43 2		Engaged about vegetable food, ...		11·6
Lawyer, ...	43·02		Fisherman, ...	11·4	
Physician and surgeon, . .	42·93		Agricultural laborer, . . .		11·4
Laundress and charwoman,		41·3	Engaged about vegetable food, ...	11·1	
Hawker and peddler, . . .	39·3		Engaged about animal food,	10·8	
Porter and messenger, . .		38·8	" about music, . .		10·4
Coachman, ...	37·4		" about houses, including bricklayers and		
Watchmaker, ...		30·48	joiners, ...	8·21	
Clergyman and minister, .	28·87		Engaged in wool, ...	8·2	
Draper, ...	22·14		" iron and steel, . .	8·06	
Artistic, ...	28·6		" intoxicating drinks,	7·6	
Domestic servant, ...		28·3	Tailor, ...		7·4
Teacher, ...		26·3	Engaged about silk, . . .	7·4	
Weaver, ...		26·3	Do. do., . .		7·3
Teacher, ...	23·1		Engaged in cotton manufactories, ...		6·67
Engaged in music, ...	21·6		Do. do., . . .	5·18	
Hawker and peddler, . . .		20·6	Engaged about coal, . . .	5·5	
Barge and seaman, . . .	19·1		Agricultural laborer, . . .	4·5	
Domestic servant, ...	18·3		Engaged in iron and steel, .		4·9
Gold and silver worker, . .	18·2		" intoxicating drinks,		2·6
Wood and furniture, . . .	18·1		" animal food, . . .		2·38
Tailor, ...	17·4		" wool, ...		2·3
Watchmaker, ...	17·0		Draper, ...		2·07
Porter and messenger, . .	16·3		Farmer, ...		0 9
Shoemaker, ...	16·3		Grocer, ...		0·71
Do., ...		15·2			
Engaged about books, . .	14·8				
Horsekeeper and jockey, .	14·8				

Marriage.—Esquirol's experience on this subject was as follows:

1st. That the insane unmarried, received at Charenton, bear to the total number of admissions, the proportion of 1 to 2·22 (or about one-half), but the unmarried men are to the women as 5 to 2.

2d. That the insane married are to the total admissions as 1 to 2; but there is very little difference between the married men and women.

3d. That the men and women widowed, form but a fifth of the total admissions; but the widowed men are to the widowed women as 4 to 7, less a fraction. The unmarried men more frequently become insane than the married women, because insanity attacks the men at from twenty to twenty-five years of age, and at this period they seldom think of marrying; they are more tyrannized over by passions, while the women, at that age, are usually married. The number of married women admitted at Charenton equals the number

of married men. Does marriage, in consequence of the physical and moral evils to which it exposes the female, more frequently cause the loss of reason ?[1]

M. Parchappe has analyzed the condition, with regard to marriage, of 17,932 patients, in various asylums, and calculates that 49 per cent. had never been married, while 40 per cent. had been. Eleven per cent. were widowed. This calculation is, however, made without reference to population. Now the population in Paris, above twenty years of age, in 1817, exhibited the following proportions per cent. in regard to marriage :

	Men.	Women.	Both Sexes.
Unmarried, . . .	31·0	29·4	30·2
Married, . . .	62·3	51·4	56·2
Widowed, . . .	6·6	19·0	13·4

The following table exhibits the same calculation on the numbers in the asylums of Bicêtre and Salpêtrière, admitted between 1822 and 1833 :

	Men.	Women.	Both Sexes.
Unmarried, . . .	41·6	39·5	40·4
Married, . . .	47·0	40·3	43·2
Widowed, . . .	10·4	20·0	16·3

From which it is obvious, that although there were just twice as many married men as unmarried, living in Paris, above the age of twenty, nearly as many per cent. of unmarried persons were admitted into an asylum as married ; while there should have been only about half as many, had the married state been a matter of indifference in relation to insanity. And so, in regard to the two sexes, while the difference between the married and those who had never been married was 26·0 per cent. in the population of Paris, of those admitted into the asylums for the insane of that city, the proportion of unmarried was so greatly increased as to diminish the difference between them and the married to 3·1 per cent. Further, if the widowed and those who had never been married, be added together, we shall find that, in the population of Paris, they yield a proportion of 43·6 per cent., while those actually married were 56·2 per cent. On the other hand, if we take the statistics of the asylum referred to, the proportions are precisely reversed—the addition of the widows, and those who have never been married, yielding 56·7 per cent., while those actually married equal 43·2 per cent. We may, therefore, agree with the

[1] "Malad. Mental." tom. 2, p. 678.

conclusion of Dr. Parchappe, that celibacy, as well as widowhood, may be regarded as a predisposing cause of insanity in both sexes. He adds, that celibacy appears to act almost equally on men and women; but that widowhood exercises more influence upon the former: so that the married state is a greater preservative against insanity with men than with women.[1]

The experience of the Retreat has very decidedly shown, that of the patients therein admitted, a large majority had never been married, namely, two-thirds. We find that, out of 1426 patients admitted into Colney Hatch Asylum, during four years, their condition, with regard to marriage, was as follows:

Unmarried.	Married.	Widowed.
645, or 45·23 p. c.	643, or 45·09	138, or 9·68

Now it appears, from the census of 1851, that the condition of the entire population of Great Britain (aged twenty and upwards) was, in respect of marriage, as follows:

Unmarried.	Married.	Widowed.		Total.
3,456,310	6,852,695	1,178,559	=	11,487,664
30·2 p. c.	57·6 p. c.	10·2 p. c.	=	100

If, then, the preceding tables be compared, and the number of admissions under the three divisions in regard to marriage be compared with the numbers living in the population at large, under the same divisions, it will be found, that, although there are nearly twice as many married as unmarried persons in Great Britain, there is a slight excess of the latter over the former in Colney Hatch Asylum. By a simple calculation, we find, the proportion still larger in the Wilts' County Asylum.

So that it appears that, not only was there a greater absolute number of patients admitted into Colney Hatch Asylum (even after excluding the idiotic), who had never been married, but also a number greater, relatively, to the persons unmarried in Great Britain. Of course, in this calculation it is assumed that the conjugal condition of the locality from which patients are sent to Colney Hatch is not very different to that furnished in the census of the general population.

Dr. Prichard concluded, from the statistics which he collected together, that, "after making allowances for all deductions, it still

[1] "Rech. Stat. sur les Causes de l'Alienation Ment." par M. Parchappe, p. 42.

appears probable that the condition of married persons is, *cæteris paribus*, much less favorable to the excitement of madness than that of celibacy." It must not, however, be overlooked, that, one reason why celibacy and insanity are so much connected, is, that the mental peculiarities of patients, often exhibited in years previous to their admission, may have prevented marriage.

MM. Aubanel and Thore have ascertained the condition of 8603 patients in various asylums on the Continent and in America, as follows: Unmarried 4395, married 2908, widowed 401, unknown 899. "If, after the example of M. Parchappe," observe these writers, "we subtract from the number of the unmarried, all those who are under twenty years of age (working at the same time on the numbers representing the insane, and those of the population), we arrive at a result analogous to his own,—that is to say, that, for the insane celibates, the proportion is 1 to 1880, while that of the sane is 1 to 4362. It is, then, evident, that celibacy predisposes to insanity."

Exciting Causes.—*Moral and Physical.*

As the result of very extensive statistical inquiry, M. Parchappe arrives at the conclusion, that, moral causes more frequently determine insanity than physical. This is most shown among females. They are the most powerful in producing melancholy; they have a marked influence, also, in causing mania; but their influence is much less in insanity complicated with paralysis.

In consequence of the diversity of opinion which exists, as to what constitutes a just line of distinction between moral and physical causes, it may tend to make Dr. Parchappe's statistics clearer, if we analyze and arrange a certain number of his cases according to the arrangement we here adopt, in regard to the separation of moral and physical causes:

Physical Causes.		Moral Causes.	
Epilepsy,	68	Disappointed Affections,	53
Intemperance,	164	Domestic Troubles,	241
Vice and Immorality,	40	" Grief,	88
Injuries to Head and Spine,	4	Religious Anxiety and Excitement,	56
Disease of Brain,	14	Political and other Excitement,	34
Other Diseases,	18	Wounded Feelings,	84
Uterine and Childbearing,	45	Fright,	48
Old Age,	8	Over Study,	8
Mercury,	3		
	364		612

From this it would appear, that, out of 976 cases, in which the cause was ascertained, the moral causes exceeded the physical by 248, or 23·2 per cent. By the arrangement of M. Parchappe, the excess is still greater, namely, 34·2.

By some writers, epilepsy is regarded as a moral and not a physical cause of insanity, seeing that epilepsy itself is, in many instances, produced by causes of a moral nature. Old age may, with some reason, be considered as an essential part of the disease (as much as idiocy), and therefore as improperly placed among the causes which have induced the disorder.

Pinel considered moral causes to be twice as frequent as those of a physical nature; out of 683 cases tabulated by him, 464 were referred to the former, and 219 to the latter. Esquirol arrived at the conclusion, that moral causes were four times as fruitful in the production of insanity as physical, and that women are more influenced by them than men.

The statistics of Bethlem Hospital point to the same direction, namely, that the cases arising from moral causes, are about twofold those arising from physical causes (980 to 571).[1]

Guislain estimates that, of 100 admissions, 66 arise from moral causes, approaching very nearly the result arrived at by M. Parchappe, before cited, namely, 67·1 per cent., and that of Hare, to whom Guislain refers, namely, 66 per cent.

It is an interesting fact that, at the Retreat, the proportions have been reversed, the physical being in excess of the moral by 25 per cent.

We observe the same in an inquiry into the causes of insanity among the patients in various Irish asylums, in 1851, from which it appears that the total cases assigned to physical causes amounted to 954; those to moral causes, 847.

We find, also, in analyzing the reported causes of the cases admitted into sixteen of the Hospitals for the Insane, in the United States, that out of 16,041 cases in which the cause was ascertained, 9588 were due to physical, and 6453, or about two-thirds, to moral. So also, out of 7460 cases reported by Aubanel and Thore, we find, on analysis, that 4631 originated in physical, and only 2829 in moral causes. And on a total number of 29,769 cases, admitted into various

[1] Hood's "Statistics of Bethlem Hospital," p. 61.

[2] Report on the Number and Condition of Lunatics and Idiots in Ireland. Census, 1851.

asylums, we find three-fifths referrible to physical, and two-fifths to moral causes. More extended statistical data are required before we can certainly conclude whether these figures are exceptional, or whether they indicate that the general conclusion, that the moral greatly exceed the physical causes of insanity, is erroneous.

Let us next consider some of the principal causes of insanity, and endeavor to determine their comparative importance. At the asylum of St. Yon the following were the causes in their order of frequency:

Among Males.—1st. Abuse of alcoholic drinks. 2d. Reverse of fortune. 3d. Domestic troubles. 4th. Loss of friends—a succession which differs notably among females, with whom it is as follows:

1st. Domestic troubles. 2d. Loss of friends. 3d. Reverse of fortune. 4th. Abuse of alcoholic drinks.

Having regard to the form of the disorder, the order of frequency was found to be:

In *Mania.*—1st. Abuse of alcoholic drinks. 2d. Reverse of fortune. 3d. Domestic troubles. 4th. Loss of friends.

In *Melancholy.*—1st. Domestic troubles. 2d. Reverse of fortune. 3d. Loss of friends. 4th. Excess of devotional feeling.

In *General Paralysis.*—1st. Abuse of alcoholic drinks. 2d. Reverse of fortune. 3d. Domestic troubles. 4th. Libertinism.

With the object of gaining information on the same subject, so far as relates to insanity in general, we have analyzed 29,769 cases admitted into a large number of asylums in England, France, and America, and distributed them according to the classification of causes which we have adopted—excluding congenital deficiency, and also hereditary predisposition (when the only cause). On the whole, we have found a very marked agreement between the gross results of the asylums whose statistics we have consulted.

In the first place, we find that, among moral causes, domestic troubles or grief, stand first on the list in every instance; next in order stands religious anxiety or excitement; then disappointed affections; fourthly, political and other excitement; fifthly, fear and fright; and lastly, we have excess of study; and wounded feelings (as wounded self-love, &c.).

Secondly, as regards physical causes, we observe that, with one exception, intemperance ranks first in the scale; while, in the second, epilepsy, and disorders more or less connected with the uterus, are equally productive of insanity; in the third rank are other diseases than those just mentioned; vicious indulgences follow in order of fre-

quency; lastly succeed affections of the head and spine, whether idiopathic or traumatic.

The statistics published in the Irish Census for 1851 are, on the whole, in harmony with the foregoing. Thus, among the *moral* causes, grief predominated, being one-third of the whole; then reverse of fortune (170), love and jealousy (106), terror (101), religious excitement (55), study (37), anger or excessive passion (32), ill-treatment (28), anxiety (24), pride and ambition (9), political excitement (6), music (2), joy (1), remorse (1). Of the *physical* causes, 351 were referrible to congenital disease, 216 to intemperance, 100 to epilepsy, 81 to fever, 39 to injuries of the head, 36 to puerperal mania, 33 to the effects of climate (including sun-strokes), 48 to diseases of the brain.[1]

Dr. Webster's deductions, from a review of 1720 cases admitted into Bethlem Hospital, are of interest. He states that, "in male patients, anxiety was the most frequent cause—93 instances, or 14 per cent. of the entire admissions, being so reported. Pecuniary losses followed next in frequency, 50 examples, or 7·55 per cent., being thus enumerated. Excessive study produced madness in 41 male lunatics, or 6·34 per every hundred admissions. Through religious excitement, 29 men lost their senses; and 16 from grief. By love 14, and through fright only 4, male patients became insane; although this cause, like the tender passion of love, oftener produced mental aberration in women than men, as the following facts demonstrate. Thus, through fright 22 female patients lost their senses, and 43 from disappointed affections; which makes double the ratio noticed in male patients. In reference to other moral causes, which frequently excited mental disease in females, anxiety occupied the first rank, as it did in male patients—123 instances, or 11·62 per cent., being of that description. Grief produced madness in 76 cases, or 7 per cent. Through religious excitement, 53 women became mad. From pecuniary losses, 36 females, or only half the comparative ratio noticed among male lunatics; while in consequence of excessive study, which occasioned insanity, as previously stated, in 41 male inmates, only 2 females were reported who thereby lost their senses. Regarding the physical causes which induced mental derangement, it may be briefly stated, that intemperance proved the most frequent among men, 61 male persons, or 9·21 per cent. of the entire admissions, having become insane through intoxication; whereas, among females, the pro-

[1] *Journal of Psychol. Med.* July, 1855.

portion only reached half that amount, or 45 examples out of 1058 admissions. The most common physical influence which occasioned insanity among women, was unquestionably puerperal, of which description 70 examples were enumerated. Uterine disturbances, as also prolonged lactation and change of life, were besides often recorded as the apparent physical cause inducing mania in females; but these were by no means so frequent as either puerperal influences or intemperance."

Note. We are desirous of adding to this section, that the tables given at p. 252–3 are prepared by taking the numbers (of the sane population) in England and Wales, engaged in various occupations, according to the returns and classification of the last Census, viz., 1851; then taking the numbers of the insane in asylums previously engaged in the same occupations (also taken from the Census); and lastly, calculating the proportion per 10,000. Thus, the Census gives 49,714 persons under the head of "Seamstresses and Milliners;" while, under the same designation, report is made of 422 lunatics in asylums—giving a proportion per 10,000 of 84·9. In other words, of 10,000 women so engaged, 84·9 are insane. The more correct heading of the column would have been, Proportion of Lunatics in Asylums to the Sane (per 10,000), instead of " Proportion in 10,000 Lunatics in Asylums."

Section II.—*Proportion of Recoveries and Relapses.*

The method of calculating the proportion of recoveries, has been the subject of some difference of opinion, and has involved a slight diversity of practice. Very generally, however, and as we think, correctly, the recoveries have been calculated in our asylums for the insane on the admissions. Dr. Farr, on the contrary, has, in some instances, calculated the recoveries upon the discharges. The superiority of the former method has, we think, been conclusively shown, by Dr. Thurnam. We subjoin, from the statistical tables of the latter, with slight additions, the proportion of recoveries in some of the principal asylums in Great Britain, on the Continent, and in America:

Name and Description of Asylums.	Proportion of Recoveries per cent. of Admissions.	Mean Annual Mortality per cent. Resident.
Average of eleven Dutch Asylums, for pauper and private patients,	32·40	14·5
Average of nine English County Asylums, receiving paupers only,	36·95	13·88
Average of six English County Asylums, receiving private and pauper patients,	46·87	10·46
Average of Metropolitan Licensed Houses, 1839–43 (more than half paupers),	25·65	14·68
The York Asylum (one-third paupers), 1814–44,	34·54	7·24
The York Retreat, 1796–1847,	49·24	4·74
Average of seven Scotch chartered Asylums (more than half paupers),	42·37	7·52
Average of ten (pauper) Irish Asylums,	48·33	8·7
Average of five American Asylums (private and pauper patients),	46·82	9·56
Charenton, 1826–33 (private patients),	33·26	14·96
Siegburg, 1825–40 (only curable patients),	30·73	7·4

The conclusion to which an examination of these statistics leads us, may be thus stated, in the words of the above writer, namely, that, "as regards the recoveries in asylums which have been established during any considerable period,—say twenty years,—a proportion of much less than 40 per cent. of the admissions is, under ordinary circumstances, to be regarded as a low proportion, and one much exceeding 45 per cent. as a high proportion."[1]

It is of great practical importance to remember, that the chances of cure are very much greater in recent, than in chronic cases. This is clearly shown by the experience of the Retreat, in the following table:

Table.—*Showing the Average Proportion of the Recoveries, in Cases of Recent and Longer Duration, when admitted,* 1796 *to* 1857.

Duration of Disorder when admitted.	Proportion of Recoveries per cent. of Admissions.		
	MALE.	FEMALE.	MEAN.
First Class—First attack, and within 3 months,	72·97	73·23	73·10
Second Class—First attack, above 3, and within 12 months,	43·07	44·2	43·66
Third Class—Not first attack, and within 12 months,	59·44	67·01	63·77
Fourth Class—First or not first attack, and more than 12 months,	13·29	22·59	18·20
Average,	49·54	49·50	49·44

[1] "Statistics of Insanity," p. 106.

The statistics of Bethlem Hospital, also, show the importance of early treatment. Dr. Hood observes, that, "the chances of recovery diminish considerably and progressively, as the time before commencing treatment increases in length; and this, whether the cases be those in which the patients are attacked for the first time or not."[1]

There are various other circumstances, beside the duration of the disorder, which affect the prospect of recovery. Among these may be enumerated, age, sex, the civil condition, the seasons, and hereditary predisposition. At Bethlem, the recoveries under twenty-five years of age have been about three-fifths of those admitted, and about one-half between thirty and sixty-five; after which, they are only about one-seventh.

Between 1831 and 1839, there were discharged cured, from the Bicêtre,[2] 1497 patients, whose ages, in decennial periods, were as follows:

Under 20,	102
From 20 to 30,	329
" 30 " 40,	526
" 40 " 50,	310
" 50 " 60,	125
" 60 " 70,	81
" 70 " 80,	21
Above 80,	3
	1497

From which it appears, that the largest number left the asylum recovered, between thirty and forty. It must not be overlooked, however, that, in the same asylum, the largest number of admissions take place in the same decade. After the age of fifty, the proportion of cures rapidly decreases. As regards sex, in relation to recovery, it has been found at Bethlem, that, there is not so much difference of the female sex, as some other statistics have indicated. During 10 years, 54·4 p. c. recovered among the females, and 53·8 among the males.[3] At the Retreat (1796–1840), the difference in favor of the women, was as great as 20 per cent.[4] At St. Yon, it was only three p. c.[5] There was only a slight difference observable at Bethlem, in the recoveries of the married and unmarried, namely, *married*, 54·9, *un-*

[1] "Statistics of Bethlem Hospital," p. 73. [2] Aubanel and Thore, p. 130.

[3] Op. cit. p. 27, in which there appears to be an error in the working of the numbers married, which we have corrected.

[4] "Statistics of Insanity," p. 93. [5] "Notice Statistique," p. 44.

married 53·8, and *widowed* 50 p. c. These calculations are not made without taking into account the conjugal condition of the patients when admitted.

In regard to the influence of the seasons on recovery, we find that, at St. Yon, the autumn quarter is the most favorable to recovery, and the winter quarter the reverse. Thus, 518 cures were distributed as follows, in regard to the seasons: winter quarter, 92; spring, 123; summer, 145; autumn, 158.

Hereditary predisposition has been regarded as unfavorable to recovery.

Relapses.—But the preceding estimate of recoveries would be obviously imperfect, without a consideration of the question, what proportion of those who recover, subsequently relapse? Esquirol, and others, by taking readmissions as equivalent to relapses, have presented an imperfect view of this question. The former calculated, that, out of 100 recoveries, about 10 relapsed. This estimate has, however, been shown to be far below what is actually the case, and Dr. Thurnam concludes, that "the liability to a relapse, or recurrence of insanity, after recovery from the first attack, all things considered, can not be estimated as at all less than 50 per cent., or, as one in every two cases discharged recovered." This writer succeeded in tracing out the subsequent history of every patient who had been under care at the Retreat, during 44 years, in whom death had occurred, either in the institution, or after discharge. The result is as follows:

Cases followed through Life.	Died Insane during the first Attack.	Recovered from first Attack.				
		Total.	Recovery permanent. Died Sane.	Had Subsequent Attacks.		
				Died Sane.	Died Insane.	Total.
Males, ...	55	58	21	6	31	37
Females, . . .	58	73	24	14	35	49
Total, . . .	113	131	45	20	66	86

From this, it appears, that, 65·6 per cent. had subsequent attacks; that is to say, 2 out of every 3 cases of recovery from a first attack. "Of 224 persons attacked with insanity, under all circumstances of sex, age, and form of disorder, and as to proper care during the early stages of the disorder, 131, or 53·6 per cent. recovered from the first attack, during which the rest died. And, on following the 131

through life, it appears, that there was only one-third of these, viz., 44, or 18·4 per cent. of the whole, whose recovery was permanent; the remainder experienced one or more subsequent attacks, the majority dying in a state of insanity. So that, of the whole number, 65 (45+20), or 26·6 per cent., were in a state of mental health at the time of death. In round numbers, then, of ten persons attacked by insanity, five recover, and five die sooner or later during the attack. Of the five who recover, not more than two remain well during the rest of their lives. The other three sustain subsequent attacks, during which, at least two of them die. But, although the picture is thus an unfavorable one, it is very far from justifying the popular prejudice, that, insanity is, virtually, an incurable disease; and the view which it presents is much modified, by the long intervals which frequently occur between the attacks; during which intervals of mental health (in many cases of from ten to twenty years' duration), the individual has lived in all the enjoyments of social life."[1]

We have not been able to obtain statistics from any other institution, analogous to those which are presented in the foregoing table.

Section III.—*Mortality of the Insane.*

Much diversity of practice has obtained, in regard to the mode of calculating the deaths occurring in asylums for the insane—some having calculated them on the admissions or on the discharges; while the correct method, as pointed out by Dr. Farr, in his "Statistics of English Lunatic Asylums," is that of taking for the basis of calculation, the mean number of patients resident in an asylum—in other words, its average population.[2] On this principle, the table already given (p. 261) has been constructed, with slight additions, from the "Statistics of Insanity," and will enable the reader to form some idea of the mortality of asylums in England and elsewhere.

The conclusion which we are justified in arriving at, from the preceding statistics, is as follows: "Taking considerable periods of time, during which there have been no extraordinary disturbing circum-

[1] Op. cit. p. 123.

[2] This writer, however, in a subsequent paper on the Mortality of Lunatics, in the *Statistical Journal*, makes the calculation on the discharges. M. Parchappe takes the number under care during the year; and in this way calculates the proportion of deaths p. c. at St. Yon, during seventeen years, at 7·6. ("Notice Statistique," p. 51.)

stances in operation in a mixed county asylum, or in one for the middle or more opulent classes as well as paupers, a mortality which exceeds 9 or 10 per cent. is usually to be considered as decidedly unfavorable, and one which is less than 7 per cent. as highly favorable."[1]

The period of the year exerts, of course, an influence on the mortality of the insane. Thus, out of 1557 deaths at the Bicêtre, during eight years, the numbers, in regard to the seasons, were as follows: spring, 419; winter, 411; autumn, 382; summer, 345. The same proportions obtain, according to MM. Aubanel and Thore, as regards the deaths of the inhabitants of Paris itself. In the table of deaths prepared by Esquirol, the maximum mortality was in winter. We may conclude that winter and spring are the most fatal periods of the year; then autumn, and lastly summer.

At Bethlem Hospital, the deaths during the winter months appear to have only very slightly exceeded those which occurred during the summer months.[2]

A most important question remains to be answered. Is the mortality greater among the insane than the sane? Undoubtedly it is. The Registrar-General's Report, for 1854, gives the mortality of England and Wales for the preceding 17 years, at 2·24 per cent. for all ages. Now in every asylum for the insane, whether at home or abroad, statistics of which are published, the rate of mortality is very much higher. To confine ourselves to our own country: in the Norfolk Asylum, during 5 years, it was 19·1; in the Wakefield, 15·73; at Bethlem, 7·08, and at the York Retreat, where the mortality has been low, it is about double, namely, 5·06. The average age, at the origin of the disorder, of the patients who died at the Retreat, from 1796—1840, was about 39 years, at which period the expectation of life is at least 28 years. Instead, however, of the average age, at death, of these patients being 67 (39+28), it was only 56. Dr. Farr has strongly insisted on the greater rate of mortality among the insane than the sane.[4] It does not, however, necessarily follow, from the foregoing, that insanity itself shortens life, inasmuch as the cir-

[1] "Statistics of Insanity," p. 138. For all practical purposes, the results obtained by the foregoing calculations are amply sufficient; but, as has been observed by the author last cited, the only perfectly accurate test of the sanitary condition of an asylum, as shown by its deaths, is arrived at by comparing the deaths at each age (decennial and quinquennial), with the average number living at the same ages.

[2] Hood's "Statistics," p. 81.

[3] "Statistics of Insanity," p. 101.

[4] *Stat. Journal*, April, 1841, p. 24.

cumstances which have induced the disease (as intemperance, vice, and bodily disorders) may be the real causes of injuring the constitution, and curtailing the life of the patient, independently of mental disease.

It would appear that, whatever influence insanity may have in shortening the duration of life when the disease is in its acute stage, there is not the same tendency when it has assumed a chronic form. Thus, Dr. Wood found that of 46 incurable patients at Bethlem, the average duration of life somewhat exceeded that of an equal number of lives among the sane in good health—taking the "Equitable" tables for the purpose of comparison.

CHAPTER VIII.

DIAGNOSIS OF INSANITY.

No class of diseases with which man is afflicted are so various in their manifestations as those known under the general term of insanity. No diseases present such an infinite variety of light and shade belonging to their own nature, or to their intermixture with other maladies, or to the influence of temperament, of individual peculiarities of habit, or of social position; and, therefore, the diagnosis of no other class of diseases taxes nearly so much the ingenuity and the patience of the physician. The diagnosis of almost all other diseases depends principally upon weighing the evidence afforded by physical signs and symptoms, upon evidence addressed to the senses; but in mental disease, it is, for the most part, dependent upon evidence which is cognizable by the intellect alone, and upon data which the senses furnish to us only at second hand. The physician is compelled to bring to this investigation, not only a knowledge of those functions which are subservient to the vegetative and animal life of the individual, but also a clear and analytical conception of those which collectively constitute mind. He must not only be a physician, but a metaphysician; not, indeed, in the almost opprobrious sense of this term, but in that better sense which designates a lover of truth, seeking to ascertain, not the essence of mind or any other unattainable abstraction, but the laws of mind, which are as regular as any other natural laws, and the knowledge of which offers to philosophy a wholesome and legitimate object of research.

We adopt, in this chapter, the well-known classification of insanity, into mania, monomania, melancholia, dementia, and idiocy; not because we think this classification unexceptionable, but because it seems to be a convenient one, founded upon the most prominent phenomena of the disease, to be provisionally used, until a more scientific classification, founded upon the causes and nature of insanity, can be established.

The Diagnosis of Insanity presents itself to the physician either in a purely medical, or medico-legal point of view. When the question is of the former character, upon the answer which is given depends not only the kind of medical treatment, as in other diseases, but the enjoyment or the loss of the patient's liberty; inasmuch as the fact of insanity having been once established, in the great majority of instances, the patient is not merely placed under treatment, as in an ordinary disease, but "detained under care and treatment," with loss of personal freedom, and unfortunately, also, with a certain amount of unjust opprobrium attaching to himself and his relations.

When the question is a medico-legal one, it may occur either in civil suits and proceedings, or in criminal trials. In the former case, the distribution of property to a vast amount, the validity of wills, of purchases, and of other social and commercial acts, often depend upon the decision of the physician; and in criminal trials the issue of the question is the awful one, whether a human life shall be sacrificed with violence and ignominy, or saved by establishing the plea of insanity.

Whether the question be purely medical or medico-legal in its bearings and apparent consequences, the grounds of the diagnosis must be the same. For, although, in criminal trials, the nature of the crime itself, and the manner in which it has been effected, must often be allowed to have no inconsiderable weight in the formation of the judgment, yet, these circumstances are essentially no other than a part of the conduct of the patient; and the conduct must be carefully estimated, even when the question is most purely medical. But while it is necessary clearly to understand that the principles of diagnosis are the same, whatever may be the object for which the diagnosis is required, it will be found practically convenient to consider its difficulties separately, as they occur in the different ways above alluded to.

We shall, therefore, in the first place, treat the question as it presents itself to a medical man called to see a patient laboring under symptoms which have caused alarm and anxiety to his friends, who are desirous to insure his and their own safety, to provide without delay the treatment which affords the best promise of recovery, and, above all things, to have the momentous question decided for them, of confinement in an asylum, or of treatment at home. In the second place, we shall endeavor to lay down rules for distinguishing the different forms of insanity from each other, and from those *neu-*

roses for which it is possible they may be mistaken. And, in the third place, we shall treat of the diagnosis of sound and unsound mind, in relation to civil capacity, and responsibility for criminal actions, and to feigned and concealed insanity.

Difficulties of Inquiry.—When a medical man is called to see a patient whose conduct has excited suspicions of insanity, before he proceeds to personal interrogation and examination, he will act wisely in making himself as thoroughly acquainted as he possibly can with the antecedents and the history of the patient. He will naturally expect to be instructed on these subjects, with fulness and candor, by the near relations of the patient; but in this expectation he will repeatedly meet with disappointment. The systematic manner in which members of families, often deeply tainted with insanity, attempt to deceive both themselves and every one else, throws no small difficulty in the way of the medical man. The dread of insanity in many families of this kind is so great, as to constitute in itself a morbid feeling sufficiently strong to mislead the observation, to warp the judgment, and to occasion sins of concealment and untruthfulness towards those who have a right to expect and to demand the fullest and most explicit confidence. The great pertinacity with which members of insane families will often deny the slightest hereditary taint of insanity, even to a medical man, called in to treat a patient laboring under the disease, would scarcely be credited, were it not a matter of no infrequent experience. Much of this may, no doubt, be attributed to the sense of shame and disgrace which has most unrighteously been attributed to those afflicted with mental disease. But a great proportion of it must be attributed to the unhappy fact, that all the members of such families, even while they retain the full possession of their mental sanity, are not unfrequently peculiar, strange, eccentric, unaccountable, and by no means to be depended upon in affairs requiring the exercise of sound sense, good temper, and self-denial. In such a family, the medical man, whose professional assistance has been solicited on account of marked and obvious mental symptoms of one member of it, will often find himself surrounded by relatives of the patient from whom he can derive little information which is unbiassed and trustworthy. He will often find the household divided against itself, one portion of it extenuating and palliating the conduct of the patient, the other exaggerating and attributing it to the worst motives. Under such circumstances, the medical man had better take things as he finds them, and listen

to all parties with patience. He will be able to arrive at conclusions the more readily that he avoids cross-examination, and all appearance of participation in the family feud. If he cannot obtain information upon which he can rely from the immediate relatives of the patient, he will do well to make inquiries, with prudence and caution, of friends and neighbors, whose evidence will often be the more truthful, as it is the less subject to the bias of feeling. In this manner, the physician will be able to satisfy himself as to the existence or not of hereditary predisposition, and of previous attacks, the two points of the utmost diagnostic importance; perhaps not less so than that of hæmoptysis in the diagnosis of consumption.

Diagnostic Value of Hereditary Tendency.—The degree of hereditary taint may, to a certain extent, be ascertained and estimated. Thus, the insanity of one parent would indicate a less degree of predisposition than that of a parent and an uncle, and still less than that of a parent and of a grandparent or of two parents. The insanity of a parent and a grandparent, with an uncle or aunt in the same line, may be held to indicate even stronger predisposition than the insanity of both parents. The influence of the insanity of parents in creating a predisposition, will depend, to a great extent, upon whether it has taken place before or after the state of parentage commenced. The insanity of a parent, occurring after the birth of a child, if it arose from a cause adequate to excite it, without previous predisposition, would of course be held as of no value in the formation of hereditary tendency. The insanity of brothers or sisters may be of much or of little value, as evidence of predisposition, according to the circumstances under which it has shown itself. If several of them, both older and younger than the patient, have become insane, the fact tells strongly in favor of predisposition, although neither parent nor grandparent may have been lunatic; since it is well known, that other conditions in the parent, besides that of actual insanity, may create this predisposition; for instance, violent and habitual passion, the debility of old age, and, most of all, habits of intemperance at the time of procreation. The insanity of cousins cannot be said to be worth anything, as evidence of predisposition, except in corroboration of nearer and weightier facts.

It will thus be seen that the evidence of hereditary predisposition may be of such a character as to render the insanity of the patient an event in the highest degree probable; or, on the other hand, it may be so weak as to add a scarcely appreciable amount of probability to the character of the disease.

Of Previous Attacks.—The value which ought to be attached to evidence of previous attacks of insanity is considerable, since few diseases more frequently recur than those which affect the mental functions of the brain. A slight and transient attack, however, respecting the real nature of which there may have been some differences of opinion, will be of very different import to a prolonged attack of decided character. Moreover, the greater the length of time which has elapsed since any previous attack has been recovered from, the less will be the value of it as an indication of the nature of the existing disorder.

Of Change of Habits and Disposition.—Besides these two important points of hereditary predisposition and of previous attack, the physician must inform himself respecting the habits, the character, and the disposition of the patient. In doing so, he must bear in mind that they will influence his judgment in three ways. In the first place, they will enable him to form an opinion as to the kind of man which the patient has been when in health, and as to the greater probability of his becoming the subject of mental disease or of some other disorder, as, for instance, a chronic attack of drunkenness, or, if a woman, of hysteria. The disposition and character when in health, would be of considerable value as evidence, if the physician could know it from personal observation; but descriptions can scarcely be given with a sufficient lucidity to render any opinion formed upon them of equal importance. An alienist physician of judgment and experience would be able to point out, in the circle of society with which he is acquainted, nearly all the men who are very likely to become insane; but were he imprudent enough to make known this invidious prescience, it would be found that his judgment differed widely from the opinions on this subject which are current in the world. It would be found, for instance, that his prophecy would not often rest upon those men who are called eccentric. Eccentricity more frequently depends upon a disregard of public opinion, in trifling and non-essential matters, than upon any twist or perversion in the mind of the individual. The eccentric man is often a large-hearted and a courageous man, and as such, one of the last to become insane. The ominous forethought of the physician would rather rest upon the man over-susceptible concerning the good opinion which others may entertain of him; the suspicious and timorous man, who hears scandal before it is spoken, and apprehends the commencement of every possible mischief; the man who has not at the bottom of

his heart a sincere liking for his fellow-creatures, but who is querulous and contentious, and who perpetually finds himself in disaccord with the world. This is the type of man whom predisposing and exciting causes are most likely to plunge into insanity.

In the second place, these inquiries will enable the physician to compare the present behavior and habits of his patient with those which were his when in a state of health; to contrast him, as it were, with his former self, a proceeding which often affords a most satisfactory evidence of morbid change. It must be borne in mind, that in insanity the natural character of the patient is either changed or exaggerated. When simple exaggeration has taken place—when a man who has all his life been intemperate, or passionate, or gloomy, has merely become more intemperate, outrageous, or desponding, the change will have been, in all probability, unobserved for a much longer period than when an actual alteration of character has taken place; and even when observed, this exaggeration of natural character is less readily attributed by friends and relatives to the effects of insanity, than in the other case. The physician will, therefore, find it more difficult to obtain satisfactory evidence of the influence of mental disease, when it only exaggerates the natural character, than when it changes it. And when he is able to obtain such evidence, he will very frequently find that the disease has already been of long standing; an unhappy circumstance, attributable to the insidious manner in which it progresses when it takes this form. When, on the other hand, the natural character of the patient undergoes a change, the event is generally too remarkable to escape early observation. When, for instance, the man of sober and steady habits becomes intemperate and dissipated; when the prudent and careful man suddenly becomes rash, speculative, and extravagant; when the moral and religious man enters into courses of dissolute and shameless impropriety; when the carefully-nurtured and modest female demeans herself in a bold, froward, and indecent manner, the contrast is so great, that it arrests the attention at an early period, and seldom fails to satisfy the friends of the patient that it is occasioned by disease.

At first sight, the two modes in which insanity announces itself by its influence on the character appear to be essentially different. On a nearer view, however, it will perhaps be found that the difference is more apparent than real, and that in those cases where the greatest alteration of character seems to take place, the real effect

of the disease has not been to develop that which did not exist before, but merely to remove the checks and restraints which have kept it in subjection. A passionate or dissipated man merely becomes more passionate or dissipated under the excitement of incipient mania; just as he would become so, for a time, under the excitement of intoxication; his natural character has never been under control; and, therefore, morbid excitement removes no previous restraint. But it is otherwise with persons whose natural propensities are restrained by moral and religious principles. There is a latent devil in the heart of the best of men; and when the restraints of religious feeling, of prudence and self-esteem, are weakened or removed by the operation of mental disease, the fiend breaks loose, and the whole character of the man seems to undergo a sudden and complete transformation. Every medical man has observed the extraordinary amount of obscenity, in thought and language, which breaks forth from the most modest and well-nurtured woman under the influence of puerperal mania; and although it may be courteous and politic to join in the wonder of those around, that such impurities could ever enter such a mind, and while he repudiates Pope's slander, that "every woman is at heart a rake," he will nevertheless acknowledge, that religious and moral principles alone give strength to the female mind; and that, when these are weakened or removed by disease, the subterranean fires become active, and the crater gives forth smoke and flame.

In estimating exaggerations or alterations of character, the physician must be careful to make allowance for those which take place naturally, and in healthy minds. It by no means follows, because a person has become a "changed man," that he must therefore be an insane man. The nature of the change must be estimated with careful reference to its apparent cause and character. For instance, if, in the midst of prosperity and domestic happiness, a man underwent a change from a joyous and lively disposition to one of gloom and wretchedness, without any other apparent cause than the influence of predisposition to insanity, the change would justly be held to be one of the most serious and ominous import. But if predisposition did not exist, and if heavy losses or domestic afflictions afforded a reasonable cause, such a change might take place without exciting the slightest alarm on the score of impending insanity. Great changes often do take place in the character of individuals, and in their habits of life, without the slightest suspicion of insanity. For instance,

when a dissipated and reckless young man is brought under the influence of strong religious convictions, the external manifestations of his character undergo a complete change. On the other hand, a youth who has been brought up in the strict observance of a rigid religious discipline, without appreciating the principles upon which it is founded, when the impressive influence of parental or other authority is removed, may undergo an unfavorable change of character, and become thoroughly dissipated, without affording any indication of mental disorder.

In the exaggeration of character, also, the natural influence of circumstance must be allowed to have its due weight. Thus, particular callings and professions have a strong tendency to develop particular characteristics. If, for instance, a clergyman acquired arbitrary and dictatorial habits, or a physician became particularly intemperate and jovial, such developments of character would have a very different significance to that which would attach to them, if the first had occurred in a sea-captain, and the last in a Boniface.

One caution is necessary, in estimating sudden and remarkable changes of character, namely, to be on guard against the vagaries of hysteria. The hysteric temperament, in either sex, often produces the most extraordinary changes in apparent character; but they are changes in appearance only, and the versatile subject of them, who is "everything by starts, and nothing long," remains essentially the same fickle, superficial, deceptive being under all phases of character.

In the third place, a careful inquiry into the habits of the patient will often enable the physician to discover an adequate cause for the production of insanity. It will often, for instance, make him aware of habits of intemperance, which are an amply sufficient cause; or habits of strong mental excitement, such as those afforded by gambling, whether it be of the unlawful sort or the legal gambling of rash speculation; or it will indicate to him religious and social habits and practices testifying to the existence of that fanatical temper, and those peculiar views, which statistics prove to be most influential in the production of mental disease.

Such a preliminary inquiry will also make the physician aware of family feuds and dissensions, and it will instruct him on many other matters of the like kind, which it is absolutely essential that he should know, before he can weigh all the evidence of his patient's insanity, with that nice discrimination which the delicate and difficult nature of the inquiry frequently demands.

Although we have not yet introduced the physician to his patient, we have, nevertheless, engaged his attention in matters which will greatly assist his judgment. Thus, if he is informed on credible testimony, that the parents or grandparents have been insane, that the patient has himself undergone attacks of insanity, that his character has recently become changed in a notable and strange manner, and that, moreover, he has been intemperate, or subjected to some other influence capable of exciting mental disease; if all or part of these circumstances have been ascertained, the physician will find the further examination, and his ultimate judgment, infinitely more easy than if he entered upon the former without such previous instruction.

Manner of Examination.—In the personal examination of the patient, the greatest tact and discretion are required. A physician called to treat any bodily disease, at once commences with direct and pertinent questions; but, in all difficult cases of mental diagnosis, such a proceeding would surely defeat its ends. The physician, often indeed, finds some difficulty in contriving to be introduced to the patient, and in commencing a conversation without bringing about the éclaircissement which, above all things, is to be avoided. If the patient is strongly preoccupied with a delusive idea, or by maniacal excitement, of course no difficulty will exist; and sometimes, in cases of melancholia, the patient will himself be most anxious to consult the physician on his mental state. But, when the disease is in the incipient stage, and when the patient is suspicious and hostile, the matter of introduction and the opening of conversation require much tact, and sometimes a little contrivance. In cases of bodily disease, it would not be unusual or improper for the physician to commence with, "I am sorry to hear from your good lady, that you have lately been troubled with shortness of breath, and pain in the chest," &c. But if the alienist physician were to open the campaign after this fashion, with, "Sir, your wife informs me that you have lately been subject to fits of ungovernable passion, alternating with despondency," &c., the patient would probably turn the flank of the maladroit physician, or, at least, beat a hasty retreat. We cannot go so far as to assert, that small deceptions must never be practised; such, for instance, as apparently calling in the physician to see another member of the family, affected with a convenient illness; but of this we are convinced, that the discovery of even the slightest deception, will have a prejudicial influence on the future treatment. In almost all cases, the physician may readily

enough engage the attention and the good-will of the patient, if he commences with sympathizing inquiries respecting any bodily symptoms and ailments, or respecting any matters in which he knows the patient takes a lively interest.

The physician will rarely act with wisdom, if he at once assail the citadel of the disease. He must first endeavor to occupy the outworks. His efforts must be directed to placing himself on good terms with his patient. For this, no general directions can be given. He must employ that tact derived from good sense and knowledge of mankind, without which he will find himself lame and impotent in this field of medical practice. By the time that a good understanding has been established between the physician and the patient, the former will have obtained, from the various sources which we have specified, information of the utmost importance for the guidance of his interrogations. If he is so unfortunate as to have absolutely no history of his patient, he will have observed in him one of four things, either, firstly, a vacant and meaningless expression, and a childish absurdity of action, the signs of dementia, of imbecility, or those of general paralysis; or, secondly, a facial expression of deep and concentrated sorrow; or, thirdly, indications in physiognomy, or demeanor, of strangeness and irregularity; or, fourthly, no outward indication of mental disease. In each of these four main divisions of mental disease, a somewhat different method of interrogation must be pursued.

In melancholia, the patient is often only too ready to converse on his mental symptoms. In imbecility, and early dementia, his apprehension is not sufficiently alert to place him on his guard; and, in mania, he either suffers from head-symptoms, respecting which he will readily converse with a medical man, or his mind is actively engaged on some project or object, which will afford the physician appropriate materials for conversation. The most difficult cases are those in which differences of opinion and of interest exist among the members of the patient's family, and the patient has quietly been told that it is wished to prove him insane, and to place him under confinement, and that the doctor is coming to examine him for that purpose. Under such circumstances, which are by no means imaginary, the physician must do the best he can; and, if this is but indifferently well, he must content himself with the reflection that the fault is not his.

Peculiarities of Residence and Dress.—Immediately that the

physician finds himself in the presence of his patient, "the facts observed by himself," upon which alone the law very properly insists, that the diagnosis of insanity shall really be made, will require the keenest exercise of his perceptive and analytic powers. Of course, there are a great number of cases in which the existence of insanity is so evident, that, strictly speaking, diagnosis becomes quite unnecessary. But, when insanity has assumed so marked a form, that, as Mrs. Page saith—"any madness I ever yet beheld seemed but tameness, civility, and patience to this distemper he is now in,"—the question of diagnosis gives way to that of treatment. But, in slight cases, and in early stages of the malady, the symptoms are by no means invariably conclusive, or even satisfactory. The physician will, therefore, do right to avail himself of every circumstance which can assist him in forming a right judgment; even as, in the diagnosis of phthisis, the evidence afforded by auscultation and percussion does not justify him in neglecting, where any doubt exists, to examine the state of the hair, the finger ends, the gums, or any other part of the body capable of affording corroborative testimony. On entering a house in which the head of the family is insane, the physician will not unfrequently find his attention attracted to many little circumstances, testifying to a want of order and direction in the household affairs. In the room principally occupied by the patient, things are especially found to be out of place; bizarreries often present themselves in the decoration of the walls and the arrangement of the furniture. A short time since, on visiting the house of a gentleman on whose mental condition we had been called upon to report, we remarked, among other things, a number of trumpery clocks. There were seven or eight of them in the hall, diligently at work to show the hour of the day, but all of them, like Charles the Fifth's timepieces, entertaining individual and very different opinions on that important point. In fact, the variations of time indicated by them extended to full three quarters of an hour. In reply to a remark, the owner of this array of pendulums told us, that it was a great point with him to know the precise time, and that he bought all the clocks, at auctions and elsewhere, which he could obtain under a certain sum; he had so many clocks because, if one did not go accurately, another might. When told, that a really good timepiece, purchased with the collective price of his trumpery horologes, would give him much more reliable information than all of them put together; since, if any one of them did by chance go accurately, he could not

tell which it was; he was evidently convinced against his will, and retained his own opinion still. A love of order is rarely seen among the insane, except in some chronic cases where it has been acquired under asylum discipline. The residence and the room of the patient often, therefore, bear traces of disorder; articles of clothing are scattered around, everything is disarranged, and the dress and person of the patient often bear evident marks of want of care and cleanliness. In fact, the description given by Rosalind of a lover, would have been much more true to nature if applied to an insane person—namely, "a lean cheek, a sunken eye, an unquestionable spirit;" "then your hose should be ungartered, your bonnet unbanded, your sleeve unbuttoned, your shoe untied, and everything about you demonstrating a careless desolation." This description was, very likely, taken from the negligent dress of the insane, since the fair speaker, immediately afterwards, expresses her opinion, "that love is merely a madness, and deserves as well a dark house and a whip as madmen do." When Hamlet's mind was first shaken, he went

> "With his doublet all unbraced,
> No hat upon his head, his stockings loose,
> Ungartered, and down-gyved to his ankle."

In erotic madness, the dress is not as fair Rosalind would have it, careless and disordered, but generally the contrary, and often fantastic, arranged with care and with the evident desire to attract admiration.

The patient's dress not unfrequently presents characteristic traits indicating the direction of insane delusion; for instance, in ambitious insanity it is made to ape the military or the regal cut, if the patient thinks himself a great general or king. But these indications belong to a later period of the disease; and it may be taken as a general rule, that in the earlier stages of mental disorder the dress and personal condition of the patient are neglected. Sometimes there is great intolerance of dress, the patient seeming to suffer irritation from the customary articles of clothing. The propensity to remain wholly or partially nude is frequent, and owes its origin to various causes. A young lady may desire to live in the primitive simplicity of paradise; or she may think her body invisible, and wish to remove the gross envelopes which would render this corporeal translucency of no avail; or, clothing may be thrown off and destroyed out of mere mischief and destructiveness; or, the sensibility of the skin

may be greatly enhanced, and the warmth and friction of clothing may cause much annoyance.

The physician's observations of the negligences, inconsistencies, vanities, and various peculiarities of the patient's dress will proceed concurrently with the more important observation of his appearance, demeanor, and conduct. The appearance of the patient will depend upon the expression of his physiognomy, the traits of temperament, the bodily conformation and condition, and the habitual postures and gestures. The whole of the above may be classed under the terms, appearances and demeanor. That which the patient says and does we may distinguish as his conduct.

Peculiarities of Bodily Condition.—The bodily condition of the patient, in regard to plumpness or emaciation, to the state of the skin, the pulse, and the tongue, rarely affords information of any practical value in the question of diagnosis. The instances are so numerous in which the mental functions of the cerebral hemispheres may be greatly disordered, while the functions of all the other bodily organs remain healthy, that their frequent deviations from a normal state cannot be relied upon as trustworthy data in the formation of an opinion as to the existence of mental disease. It may be laid down as a general rule, to which, however, there are numerous exceptions, that the insane do not possess robust bodily health. The early stages of insanity are very frequently marked by emaciation, occasioned by loss of rest, wasting of the tissues from increased activity of the mental and bodily functions, and derangement of the alimentative processes.

This emaciation is one cause of the alteration and sharpening of the features which so constantly take place. When, however, the progress of mental disease is gradual and insidious, especially if it arises from a strong predisposition, and without the intervention of disease in any of the organs subservient to the vegetative life, there may be little or no emaciation at any period. During the later stages of those forms of mental disease which are characterized by diminution or loss of power, it is well known that the body is inclined to obesity.

Little reliance can be placed upon the indications either of the pulse or of the tongue, although in the early stages of insanity the former is generally quicker than in health, and the latter is not unfrequently coated with a white central list. The skin is very generally harsh and dry, and not unfrequently affected with eruptive

disorders. It is exceedingly rare to see a person in the early periods of insanity, with a thoroughly clear healthy complexion.

The point of real importance to be attended to in the examination of the patient's bodily condition, is to ascertain whether any diseased condition of any of the organs exists, which may have been the remote cause of the malady. Disordered states of the abdominal viscera are of such frequent occurrence, that the veteran Jacobi and some other physicians of eminence have believed that they altogether account for the causation of mental disease. We are far from being able to concur in this narrow view of the etiology of insanity; but no physician of much experience in this department of medical science will be likely to deny, that disordered states of the stomach, the intestines, and the liver, frequently constitute the remote causes of cerebral disease. The indications, therefore, of gastric and hepatic disorder observable in the tongue, the skin, and the nutriment of the body, are signs of the existence of this cause. It is as yet very uncertain whether diseases of the heart and of the lungs often operate as remote causes of insanity. In our opinion, the probability is against this supposition, notwithstanding the numerous instances in which these organs are found to be diseased in persons dying insane. But there can be no doubt that uterine disorders constitute one of the most frequent remote causes of insanity with which we are acquainted. If, therefore, the physician can ascertain that his patient has suffered, or is suffering from gastric, hepatic, intestinal, or uterine disorder, he will have discovered a well-known and frequent cause, the existence of which must be allowed to exercise its due influence in the diagnosis.

Peculiarities of Gesture.—The features and gestures of the patient are oftentimes strongly expressive of mental disease. The muscular system is the bond of connection between the mental functions of the cerebrum and the external world. It is the muscular system which, obeying the behests of the metaphysical *Ego*, executes its commands, and interprets its desires and its passions. Strictly speaking, changes in the physiognomy and in the vocal articulation must also be referred to this source; but it is convenient to consider them apart, and at the present time to direct attention to those grosser muscular actions which are commonly understood as the postures and gestures of the body. These are generally more pronounced and more expressive in insanity than in health. In artificial states of society, the sign-language so commonly employed by

the savage or the man of nature to express his feelings and his wants, is discontinued; speech is perfected, and articulate or written language becomes the sole medium of intercommunication. Gesticulation, as a means of communicatiug thought, has been found to be too demonstrative, too simple, and perhaps also too true, to be convenient for the use of man in that state in which it has even been said by one of the ablest men of the age, that "the principal use of language is to conceal thought." But children, savages, and especially the deaf and dumb, converse by the sign-language of gesture; and the insane man, removed from the restraints imposed upon him by so called civilization, returns to the state of the child or the savage, and expresses his desires and his feelings by the sign-language of nature. The pantomime of the insane is often perfect. It cannot be called acting, since it is real; and hence arises the most frequent cause of failure in attempts to simulate insanity. The counterfeit madman, acting the part which he assumes with grotesque clumsiness, leaves a wide and easily detected interval between himself and the real lunatic.

In order to describe all the postures and gestures of the insane, it would be necessary to dilate upon all the resources of pantomimic expression. It is, however, unnecessary to enlarge upon this subject, since every member of the human society is compelled to study both the language of gesticulation and that of facial expression, from earliest infancy; and there are few men who do not become adepts in interpreting the signification both of look and gesture. A man who can appreciate the different mental conditions designated by the terms sadness, melancholy, despondency, despair, will find no difficulty in the interpretation of the sign-language by which they are outwardly expressed. Sadness he will expect to see manifested by simple repose and quietude of manner; melancholy, by quietude deepening into immobility, with clasped hands, bowed head, and heavy step, and the desire of solitude; in despondency he will see an exaggeration of all these characteristics, the posture often crouching and bent together, like that of a person suffering from cold; while in despair, the extremity of mental agony acts as an excitement, and the sufferer is stimulated into action, or he is held rigid in the cramp of intense fear.

A wide difference intervenes between the commencement of melancholia, in which it may be said of the patient,

"There was a listening fear in her regard,
As if calamity had but begun,"

and the extreme of mental agony, which produces reaction, either in the form of the most painful and dangerous excitement, or of concentrated suicidal purpose—"the resolution of despair."

It will be needless to detail the various *modes* in which emotion depicts itself, in motion and attitude, in partial insanity. This is not different to what occurs when the same emotions are excited in a healthy brain, or the difference exists only in degree. Pride, anger, fear, sadness, jealousy, and all other passions, find that appropriate and distinctive expression, which the language of poetry can alone describe with adequate force and truth. The fixed and intense expression of any one emotion may be taken as a presumptive symbol of partial insanity.

When the attitude is restless, the motions quick and vivacious, and expressive of various and changeful emotions, a state of mania or general insanity is indicated. Melancholia is, on the contrary, known in some of its phases by fixed attitudes and slow gestures; in others, by gestures of earnest supplication and intense dread; or by the reckless wildness, or intense resolution, of despair. Imbecility and dementia are marked by slovenly postures, and by undecided and aimless movements, indicating that both the action and the repose of the muscles are under feeble and inefficient direction. All these details it would be wearisome and useless to dwell upon; but the alienist physician must have his eye open to seize upon their minutest shades, and his mind apt and prepared to appreciate them. In the early stages of insanity, it is often the collective evidence of things, individually unimportant, upon which the judgment must be based.

The Physiognomy of Insanity.—The extreme distortion of face produced by acute mania, or melancholia in its higher degree, is easily recognized. It may, however, be needful to distinguish it from the expression of cerebral inflammation, or of fever. The distinguishing characteristics of cerebral inflammation, attended by maniacal symptoms are, a greater suffusion of countenance; a firm knitting of the brows expressive of intense pain, and a fierce, prominent, and bloodshot eye. It is in meningitis, rather than in mania, that it may be truly said—"And each strained ball of sight seemed bursting from his head." The patient suffering from cerebral in-

flammation has a motiveless ferocity of aspect, rarely met with in pure mania. The stage of effusion in meningitis, and all the stages of some forms of deep-seated cerebral inflammation, in which the meninges are not affected, require to be distinguished from dementia, rather than from mania. The history of the case, however, and the affection of the muscular system, will generally render the diagnosis easy.

The aspect of countenance in the delirium of fever is sufficiently different from that of mania, to afford valuable aid in the discrimination of these two conditions. In fever, whatever may be the degree of excitement and the amount of delirium, the countenance indicates low emotional force. In the delirium of mania, on the contrary, the expression of emotional force is highly exaggerated. This difference is very marked in the expression of the eyes and the mouth. Whatever may be the character of febrile delirium, the expression of the eyes is comparatively devoid of meaning; the muscles of the mouth, although relaxed, are devoid of mobility. The muscles of the face, like those of the body in general, are greatly deficient in power and tone; and the features, which are controlled by the facial muscles, are relaxed and without expression. If there is any mobility of the facial muscles, it is tremulous and feeble, indicating want of power; whereas, in mania, the play of these muscles is full of expression and purpose. It is vigorous and tense, and plainly marks a concentration of nervous force. The deepening wrinkles on the face of a patient suffering from the delirium of fever, are the result of emaciation; those which furrow the face of a maniac, result from the tense contraction of the muscles of expression.

Lavater recommends the student of physiognomy to commence with the insane, because they will afford to his art extreme and crucial instances.

We think that, in this instance, the acute founder of physiognomical science has not displayed his usual clear-sighted perception of the correct order of observation. To commence the study of physiognomy in a lunatic asylum, would be not less impracticable than to study physiology in the first instance by means of pathology. It would have been as irrational to expect that the functions of the lungs could be discovered by the inspection of a piece of hepatized pulmonary tissue, as that the signs of natural expression could be determined solely by the observation of that which is strange and unnatural. It would seem, that, in all departments of investigation, it

is right to commence with the study of that which is most common, simple, and regular; and from thence to proceed to inquiries respecting that which is unusual and irregular. Notwithstanding Lavater's recommendation to his followers, we much doubt whether he ever himself pursued his physiognomical researches in the wards of a lunatic asylum. His nearest approach to it appears to have been, a careful study of the insane productions of the painter Fuseli. He speaks of madness as an entity, the presence of which may possibly be discovered by some single mark or token in the lineaments. Actual researches in a lunatic asylum would have speedily undeceived him on this point. It may positively be asserted, that any one totally ignorant of the right meaning to be attached to the different expressions of the human face, would find himself more perplexed in the wards of a lunatic asylum, than in any other place in the world, because he would find every variety of expression in every degree of intensity, without the existence of circumstances corresponding to and explaining the physiognomical signs. Our own advice, therefore, to the student of physiognomy, would be the converse of that given by Lavater; and we are prepared to affirm, that no one can become proficient in the recognition of the various forms of insanity, who has not acquired a considerable amount of physiognomical tact by his intercourse with the sane portion of mankind.

If we may trust the descriptions transmitted to us by dramatists, poets, and painters, the facial expression of insanity was much more intense in the olden times, than at the present day; and the idea entertained of a madman, by the public, is more frequently taken from such descriptions than from personal observations. We have seldom been more amused by the disappointment of a friend, than we were by that of an accomplished gentleman, who has now, for some years, made it his business and his delight to read Shakspeare to the English public. After patiently examining the numerous inmates of the Devon Asylum, he pronounced his opinion that they were all "stale, flat, and unprofitable." Doubtless they were so in his point of view, for he said, "Where is the poetry of madness? I see none of it—no flashing eye, no foam on the mouth. Why your people are as sober and respectable as a vestry meeting!" It was a great artistic disappointment; but, rather flattered than abashed, we admitted that, since the insane had been treated on rational and humane principles, they had ceased to offer the best and most constant examples of exaggerated passion. But even did it continue to exist, the mere

expression of intense and uncontrollable emotion would not, in itself be a symptom of insanity; since emotion is often both intense and uncontrollable in those who are undoubtedly sane. Since, however, insanity is, by common consent, acknowledged to betray itself by the facial expression, it becomes necessary to inquire what are its true physiognomical symptoms.

It would be tedious and unprofitable to dilate at length upon this subject. Its importance, indeed, cannot be easily overrated; but the art of physiognomy cannot be taught in dissertations or treatises. Like the art of judging of the weather, acquired by the mariner and the sportsman, its only school is the wide field of observation. A few principles may, indeed, be laid down, by which observation may be rendered more easy. They are, however, but few, and the exceptions to their application are frequent.

The expression of the physiognomy in a sane person is compounded of intellectual, emotional, and propensive expression. Intellectual expression may be divided into that which is sensational, or perceptive, and that which is reflective. The first is marked by the obvious activity of the organs of sense, especially by that of the eye, and by a certain fixedness of the features, indicating concentrated attention. The reflective expression, on the other hand, is marked by the more or less complete inactivity of the organs of sense, accompanied, however, by the same fixedness of feature, which, in this instance, betokens concentration of attention upon an internal object. It would seem, that a purely intellectual expression, of either kind, must be unalloyed by traces of emotion. But, on the other hand, a physiognomy indicating the presence of strong emotion, may, nevertheless, be highly intellectual. An ample brow, a clear and steadfast eye, a firm and well-proportioned mouth, so constantly accompany a high degree of intelligence, that they are almost instinctively recognized as the signs of its presence, even although the features may be deeply marked by tokens which indicate the existence of one or more of the passions.

The emotional expression of the physiognomy is not capable of so simple a description and classification as the intellectual. The distinct emotional expressions are as numerous as the emotions themselves. They may, however, be conveniently classified into those which are expansive, and those which are contracted. To the former usually belong the feelings which are generous and honorable; to the latter, those which are selfish and mean. The former are generally

accompanied by feelings of well-being, or happiness; the latter, by those of suffering. Numerous exceptions, however, exist. Pity, for instance, is a generous but painful emotion.

The expressional impress of strong animal propensities, or the absence of such expression, is a point of the highest importance. The sensual expression of physiognomy is not much modified by any one prevailing instinct; it is, however, greatly modified according to the presence or absence of intellectual power. Without the latter, the facial indications of powerful and unrestrained instincts often profoundly degrade and brutalize the human face. When, however, they are conjoined with intellectual power, strong propensities often appear to lend force and energy to the character; and by the union of the two, the facial expression is wholly redeemed.

The student of the physiognomy of the insane must, above all things, endeavor to separate and to distinguish the three elements of expression above-named, and to estimate the degree in which they severally exist. Having done this, he must bend all his powers of perception and discrimination to the character which prevailing emotion has stamped upon the physiognomy. In persons of placid temperament, and especially in the earlier years of life, the facial traces of emotion may be so slight as to defy the keenest scrutiny. But after the middle period of life, the habitual emotions become stamped in legible characters upon the features of almost all men; and in the rare instances where this is not the case, this fact in itself becomes a key to the character, pointing to an extraordinary absence of passions and desires, or a still more extraordinary control over their external manifestation. Insanity anticipates the effect of years, and prematurely impresses upon the human face the strong characteristics of habitual emotion. In the youthful insane, the facial lines of anger and pride, sorrow and fear, are more deeply cut than in sane persons of advanced years; and in a mature or aged lunatic, they are often displayed in an exaggerated degree rarely observed in persons of sound mind. It will be foreign to the object of this work, to descant upon the minutiæ of physiognomical expression; for these, the student must consult works devoted to the subject, and especially those of Lavater, the astute and laborious founder of the science. It will be sufficient in this place briefly to refer to the physiognomical signs observable in the plicæ of the forehead. When these are longitudinal, regular, and broad, they indicate a calm and reflective character; when tortuous and abrupt, they indicate the prevalence of

angry emotion. The scowl of anger must be distinguished from the heavy brow of melancholy; in the former, the eyebrows are forcibly approximated; in the latter, they simply droop. The various expressions of the mouth and nostrils must be duly estimated. The dilated nostril of pride and scorn must distinguish from that of fear. The compression and mobility of the lips and corners of the mouth, indicate resolution or obstinacy, disgust and aversion; or, on the other hand, satisfaction and the amiable feelings. The vivid and changeful expressions of the eye are so subtle, that they will scarcely submit themselves to verbal description; but the steadfast gaze of pride, the languishing look of desire, the thwart glance of distrust, the glare of rage, characteristically express themselves in a manner which it is impossible to misapprehend.

In judging of the insane by their facial expression, the physiognomical characteristics are, in many instances, exactly similar to those observable in the sane; the intensity of expression being frequently exaggerated.

In a greater number of cases, however, a remarkable peculiarity is observable in the physiognomy of the insane; this exists in a want of accord in the expression of the different features. This is often remarkable and characteristic, and reminds one of those children's toys, in which the upper and lower halves of painted figures are separable, and capable of being joined in fantastic reunion. Thus, the lower face of an alderman may be added to the upper face of a handsome woman; and upon the simpering mouth of the latter may be superadded the stern brows of a soldier. The effects produced by this amusing toy are only exaggerations of what may be observed in the insane. The expression of mouth often gives the lie to that of the eye and the brow; and while the whole features are full of expression, it is often impossible to designate truly that which is expressed. This is, perhaps of all, the most characteristic peculiarity of insane physiognomy, because it is only observed among the insane. It is, however, frequently absent in them; and the patients in whom this peculiarity is strongly marked, are probably less numerous than those in whom it is absent. Its presence, therefore, as a symptom of insanity, is of considerable value; while but little weight can be attached to its absence.

Another peculiarity in the physiognomical expression of the insane, is the apparently causeless and motiveless play of feature which is frequently remarked in them. This is only observed in chronic

mania, and in the earlier stages of acute mania; and, conjoined with the last-mentioned conditions, it occasions that state of facial expression upon which the popular idea of a madman's looks is founded. These changes, although apparently causeless and motiveless, are not so in reality; they are, indeed, a reflection of those rapid changes in the emotional state, which often exist in mania.

The physiognomical expression of the insane must be studied with reference to the form of disease. Thus, in melancholia, the facial expression is emotional; while in mania, it is emotional and intellectual, and is marked by the characteristics of changeableness and inconsistency above described. In dementia, on the other hand, all expression has disappeared, the vacant stare and the meaningless lineaments indicating the loss of thought and of desire. It is only necessary, in this place, briefly to advert to the great peculiarities observable in the face of general paralytics,—the trembling lips, the drooping brows, the features expressive of a mixed state of imbecility and excitement, the eyes with pupils of unequal size, together afford to the experienced alienist, unquestionable testimony of the existence of this most hopeless of maladies.

The physician who is a good physiognomist (and no physician can practise his art satisfactorily and successfully unless he is so), when introduced to a patient suspected to be insane, must diligently study the features in conformity with the above principles. He will very frequently find his opinion strongly biassed by the impression which the looks of the patient make upon his experienced judgment; and upon this ground alone he will, in numerous instances, be able to pronounce with accuracy, not only that the patient is insane, but the general form of the insanity under which he labors; at least this will be the case in numerous instances of incipient mania, in dementia, and paralysis. The cases in which the looks of the patient will often defy the scrutiny of the physician are those of monomania or partial insanity, and of melancholia. In cases of partial insanity, where the delusion or delusions are not of a kind strongly to implicate the feelings, the mental disease frequently leaves no trace whatever on the physiognomy, and the looks of the patient are exactly those of a sane man. In the earlier and middle stages of melancholia, also, the physiognomical expression of sadness is not to be distinguished from that of natural and healthy grief. The extreme anxiety and wistfulness of acute melancholia, and the dark shadows of the severer forms of chronic melancholia, are, however, not to be mistaken. With the

above-named exceptions, the physician will derive invaluable aid from the physiognomical study of his patient. The information thus derived he must immediately turn to account, in the conduct of his interrogation and conversation.

Demeanor towards the Patient.—In observing the patient's expression, demeanor, attitude, &c., the physician will do well to avoid a marked and obvious attention; and in passing from ocular observation to conversational investigation, the more quietly and naturally he conducts himself, the more likely he is to succeed in disarming the suspicions of the patient, and in discovering his real mental state. Much has been written about the manner and mode of address which it is desirable to put on in intercourse with the insane; but many of the insane are themselves acute observers, quick and ready to see through the mask of an assumed manner. A physician, therefore, who feels that it is needful for him to assume towards the insane a manner foreign to his natural disposition, will do well to keep out of their way, and to direct his attention to other branches of professional practice. A quiet and self-possessed manner is most successful with the insane, but it is only successful when it is natural.

Diagnosis of Dementia.—In the mature stages of dementia, when the patient can neither understand nor answer a simple question, of course interrogation is both unnecessary and impracticable; but in the early stages of primary dementia, the task of ascertaining the extent of mental debility is not unattended with difficulty. In this form of disease, there is little in the patient's conduct or demeanor to assist the judgment of the medical man; the physiognomy, indeed, is silly and expressionless; the eyes have a meaningless look, and easily and frequently suffuse with tears; and a vacant smile plays upon the lips. The features, however, are often fixed in meaningless apathy. In this form of disease, the mind suffering from deprivation and not from aberration of function, it becomes needful only to test the degree in which the functional power has been lost. This must be determined by testing the three fundamental functions of mind, namely, those of attention, memory, and comparison.

The inattention of dementia is widely different to that of mania. When brought to the test of repeating any statement, madness "gambols" from re-wording the matter. Dementia does not gambol; it halts, or stands stock still. The fault of attention in mania arises from the "thick crowding fancies," which prevent the mind from dwelling upon any one object in a manner to fix the attention. An

object is seen clearly, although but for a moment. In dementia, no object impresses a distinct idea upon the perception, although the attention may have dwelt upon it for some length of time. The test devised by the English law for idiocy, namely, the appreciation of number, is a useful one in the early stages of dementia. It is remarkable at how early a period of the malady, patients lose not merely the power of understanding anything like an intricate account, but the value of very simple numbers. To this fact is to be attributed many instances of reckless expenditure and apparent prodigality in persons becoming insane. Other instances arise from aberration of the judgment, and loss of power to estimate consequences; and others from a morbidly active state of desire; but in the early stages of dementia, in the dementia of old age, and in imbecility, the patients become an easy prey to designing persons, from the weakened power of attention, and the consequent inability to estimate the value of money. The power of memory depends, in a great degree, upon that of attention. A thing which is well observed is well remembered; while circumstances to which the attention has not been energetically directed, hold in the memory but a feeble and treacherous place. It is partly to this that must be attributed the well-known peculiarity in the memory of persons suffering from the dementia of old age. The vivid impressions of early life are easily recalled, while the recent ones of declining age leave no traces in the mind. It must not, however, be supposed that the powers of the memory can only be enfeebled in this secondary manner. The memory is itself a cerebral function, and so purely is it a cerebral function, that some metaphysicians, who strenuously deny this attribute of all other mental powers, concede it in regard of the memory, and in this manner endeavor to establish an alliance, or a compromise, between the physiological and the spiritualist theories of the mind. The memory, then, is without question a function of the brain, and cannot fail to suffer injury from any lesion to which its organ is subjected. It is, as we have seen, impaired in a secondary manner, from enfeeblement of the attention. That it is also primarily injured, in dementia, is proved by the fact, that when peculiar circumstances have excited the attention to energetic exercise, and have occasioned passionate emotion, the memory, although in a less degree, is still feeble and treacherous.

It is remarkable that, in those forms of cerebral lesion which are characterized by enfeeblement and decay of the mental functions, the

highest of these functions, namely, the judgment, suffers to a much less extent than either the attention or the memory. The fact is abundantly verified by experience, that in persons whose general powers of mind are in an advanced stage of decay, the judgment often remains sound, so far as its condition is capable of being investigated. It is difficult to bring the comparing faculty into play, because it is difficult to present to it ideas representing the things to be compared. The attention and the memory having failed, the scales of the mental balance remain empty; but if, by adroit management, these scales can be loaded, it is found that the adjustment of the beam remains correct. This remarkable circumstance forms a point of distinction between simple dementia and mania. In mania, attention and memory are often vigorous, but the comparing faculty is deranged.

In dementia, the emotional functions suffer, but in a less degree, and at a later period than the primary intellectual functions of the mind. In the cerebral decay of old age, which may be taken as the type of dementia, the nobler and more complicated emotions of manhood give way to those of a more rudimentary character; and the state of mind, from this change, derives its popular name of "second childhood."

When ambition, patriotism, love, and friendship, have suffered decay, and the ennobling influence of the intellectual faculties have been abstracted from the character, the simpler kinds of emotion which have become habitual during life, exercise a more open and unrestrained influence upon the individual. It is the habitual influence of these kinds of emotion which especially form what is called the disposition. If this has been what is called good, the dementia of disease, or of "second childhood," will be placid and amiable; if, on the other hand, the habitual emotions have been of the egotistical and irascible kind, the state of dementia will be marked by anger easily roused, or fretfulness, and by a discontented selfishness. In persons of really evil disposition, the mental decay of old age is characterized by a hideous display of malignant feeling. The proverb says that very old women are either angels or devils.

It may be laid down as a general rule, that in pure dementia the sexual instinct is greatly weakened or destroyed. This will be found to be the case even in instances where indecent conduct is observable. Such conduct, on a strict scrutiny, will be found to arise, not from activity of the instinct, but from the loss of modesty, and from inabi-

lity to appreciate the rules of decorum. In those cases of senile insanity which are attended by lascivious conduct, the form of mental disease more nearly approaches that of mania than that of dementia. There is a mixture of the two states; but the maniacal element preponderates.

Primary Dementia.—There is, perhaps, no form of mental disease in the early stages of which it is more difficult to form a decided opinion, than in primary dementia. This difficulty arises from the frequent absence of several indications which render valuable assistance in the diagnosis of other varieties of insanity. The demeanor and conduct of the patient are often very slightly, if at all, changed; there is nothing strange in his appearance, no *égarement* in look or manner. The facial expression, indeed, is often weak and undecided in conversation; the attention is found to be feeble, but not wandering; but the earliest and most trustworthy symptom is loss of memory. The physician will often find, that in the course of conversation, the patient forgets what he has been talking about a few minutes previously, and that he has not the slightest recollection of the events of the previous day. This form of disease very rarely comes on without a decided exciting cause: and the opinion of the physician will often be facilitated by testimony as to the existence of such a cause, and enfeeblement of the faculties resulting from, and speedily following it. The most frequent causes of primary dementia are injuries of the head and attacks of apoplexy; the causes next in frequency are fever and emotional disturbances, especially grief. It may be thought wrong to classify dementia as primary, when it follows apoplexy. Classifications of this kind, however, derive their value from their utility; and it is convenient to classify as primary all cases of dementia which are not the sequelæ of other forms of mental disease.

In primary dementia, the difficulties of the physician are increased by the absence of any form of delusion—namely, of illusion, hallucination, or delusion proper.

In many instances, the most experienced physician will not be able, conscientiously, to give a decided opinion in the early stages of this malady. Its progress, however, is generally certain, the attention becomes more and more enfeebled, until even the sensational indications of the bodily wants cease to be observed, and the patient, if neglected, lapses into what are called dirty habits. In its mature stages, this form of disease is recognized with the greatest facility.

Secondary Dementia.—We restrict the term consecutive, or secondary dementia, to that form of disease in which the mental faculties are left enfeebled and decayed by the subsidence of the more acute forms of insanity. Dementia of this kind differs in various respects from primary dementia. The most remarkable point of difference is occasioned by the intermixture of the primary disease with its results. Dementia of this kind is compounded of the remains of mania or melancholia, and their effects. There is an extremely wide range in the degree and manner of this intermixture: a concrete case may present all the features of mania, with the slightest possible indication that the cerebral functions have passed into a state of permanent decay. Another case, on the other hand, may present the utmost degradation of mental power, with the slightest trace of maniacal excitability or perverseness. In this variety, traces of delusion are common. In the transition of mania into dementia, the character of the prevailing delusion not unfrequently undergoes a change; the delusive ideas become less complicated and imaginative. The existence, however, of delusion of some sort is very common, although it is more difficult to detect, in consequence of the patient having lost much of his communicativeness and demonstrativeness. Another feature which distinguishes secondary from primary dementia, and which is still more frequent than delusion, is the continuance of an exaggerated state of emotional feeling. It is, unfortunately, a matter of daily observation in the wards of a large lunatic asylum, that when the storms of mania have permanently injured the functions of the brain, painful or malevolent emotions frequently survive the decay of the intellectual faculties. It is this fact which renders the facial expression of so many chronic lunatics at once stupid and vicious; the features continue to be distorted by anger, hatred, or fear, long after they have ceased to be illuminated by the rays of reason.

Under the humane and judicious treatment which now prevails in lunatic asylums, this peculiarity in the physiognomy of secondary dementia is infinitely less frequent and less pronounced than we remember to have seen it, from ten to fifteen years ago; or than is delineated in the engravings of Morison or Esquirol, and to a still greater extent in the paintings of Hogarth and Fuseli.

Even in Cibber's well-known statue of Dementia, while the tongue is lolling from the mouth, in the very extreme of intellectual degradation, there is still a fierce scowl upon the brow. This statue, which

is reported to have been copied from the actual condition of a lunatic in the wards of Bethlem, a man who had been Oliver Cromwell's porter, represents, in an exaggerated degree, the peculiarity of facial expression to which we desire to direct attention. Cibber, however, would not, at the present day, find it easy to procure such a model, faithfully and painfully expressing, not only the effects of disease, but those of cruel and brutal treatment.

The entirely different treatment which now prevails has not changed the pathological fact, that in secondary dementia the emotions survive the intellectual powers. It has, however, altered the character of these emotions; and, in a great number of instances, it has succeeded in substituting amiable and agreeable ones, for those which are painful and malevolent; and in other instances of success less complete, it has, nevertheless, mitigated the intensity of feelings of the latter character. The most indubitable testimony with which we are acquainted, of the immense change which has taken place in the condition of lunatics, is afforded in the entirely different facial expression of lunatics, as they were painted and described by our forefathers, and as they are observed by ourselves. The old treatment converted the insane patient into a ferocious, malevolent, and repulsive being, who, in his turn, excited the horror and disgust of those who trembled to feel themselves his fellow-men.

To return from this digression to the practical question of diagnosis, the physician will find his task greatly more easy in the secondary than in the primary form of dementia; the history of the case will rarely fail to afford him substantial grounds for the formation of a decided opinion. The history of a prolonged or more violent attack of mania, followed by a gradual change of symptoms, the principal feature of which was the substitution of enfeeblement for exaggerated activity of the mental functions, can rarely leave doubt as to the nature of the case. If, however, the physician is unable to obtain any history of his patient—if, for instance, the patient should be a wandering lunatic, without relations or friends to give an account of his antecedents, the physician will, nevertheless, find little difficulty in recognizing the existence of secondary dementia. The feeble power of attention and memory will be observed as in the primary form of the disease. But, in addition to this, the physician will mark the strange want of accord between the intellectual and emotional expression of the physiognomy; and by following this clue, he will rarely fail to elicit, by interrogation, those traces of the earlier mental disease which

combine, with mere intellectual debility, to form the peculiar disease in question. He will discover various emotions capable of being easily and unreasonably excited; he will find anger or affection, confidence or distrust, devotion, pride, or rapacity, excited without motive, or by such as to a sane person would be altogether insufficient. Moreover, he will, in numerous instances, be able to discover the existence of delusions; delusions, indeed, which form but a pale reflex to those absurd convictions which carry the monomaniac or the maniac along with irresistible force; but delusions, nevertheless, absurd ideas, the result of disease and the proof of its existence.

When the countenance of a demented patient is in repose, there is frequently no trace of mental infirmity upon it. But, when the attention is roused by a question or an incident, the idiotic expression becomes at once apparent; this sudden change of facial expression,—from that which might belong to a sane and intelligent man, to that which characterizes low idiocy,—is a good diagnostic mark of dementia. In true idiocy, the mental defect is impressed upon the countenance at all times.

Diagnosis of Mania.—Mania is the term applied to that large class of mental disorders in which the functions are in a state of excitement, and their mutual dependence and proportion disturbed. It embraces forms of disease so widely apart from each other, that, in treating practically of its diagnosis, it will be essential to make some classification. For practical purposes it will be sufficient to distinguish its forms into those of *acute mania*, comprising cases which present recent and active symptoms; *chronic mania*, in which acute symptoms have given way to others of a more tranquil and permanent kind; and *incomplete mania*, corresponding to the "mania raisonante" of the French, and embracing those anomalous and undeveloped forms of mental disorder in which defective power of volition and morbid propensities are prominent symptoms.

Acute Mania.—The recognition of acute mania is as easy as that of imperfect mania is frequently difficult. Few diseases have their character so legibly stamped as that of raving madness.

The physiognomy of mania has already been commented upon at sufficient length. The expression of wildness, distraction, or anger, is often varied with that of mischief, lasciviousness, or fear, and strong emotional excitement of some kind or other is rarely absent from the facial expression of the maniac.

The physical symptoms are by no means constant, and are of little

value diagnostically; the face is pale or flushed, the skin dry and harsh, and the bowels constipated, the pulse accelerated, the tongue bearing a whitish fur, the breath offensive, saliva increased and frequently spit out, the urine loaded with phosphates, &c. But any, or all of these symptoms may be reversed, and any, or all of them, may, and often do occur in diseased conditions where there is no affection of the mental faculties. In the treatment of insanity, all the signs of physical disturbance merit careful attention, but in the diagnosis their value is exceedingly small. Almost invariably, in acute mania, there is loss of sleep, a diagnostic symptom of the utmost value between the real and the feigned disorder. The acute maniac will often pass five or six days without any sleep, and five or six weeks with only three or four hours of sleep at intervals of several days. An impostor, feigning the violent form of madness, cannot refrain from deep and regular slumber, which falls upon him with the more certainty as he exhausts himself in his efforts of spurious fury. The impostor, moreover, cannot feign the physiognomical expression of acute mania, or at all events, he cannot maintain it for more than a few minutes. A man may imitate frantic gestures, or shout gibberish, without difficulty, so long as his physical strength enables him, but he cannot maintain any look expressive of strong emotion unless he has practised the histrionic art with great care and success. The voice muscles, and those of the limbs, are constantly exercised in obedience to the will, but those of the countenance are the involuntary exponents of emotion. Conversation, properly so called, is always difficult, and often impossible, with an acute maniac. In many cases, the mind is so much occupied by delusive ideas, that only a few disconnected words can be elicited; more frequently, however, acute mania is accompanied by garrulity; this is especially the case when the exaggerated emotions are cheerful and expansive. This form of mania often exists without prevailing delusion, and the patient rambles on in his talk through a strange medley of boasts, promises, and threats, oaths, and obscene remarks, in a manner which renders it easy to understand why M. Falret supposes it possible that in this condition there is a spontaneous creation of ideas.

The restless and ever-changing condition of the mind expresses itself as strongly in action as in vociferation and wild words. The patient is always in movement, running, dancing, gesticulating, embracing, or fighting with those around him, displacing or sometimes breaking furniture, thumping with fists on the door of his room, and

evincing in manifold ways the restless activity of the muscular system. It is probable that this impulse to action, is not entirely dependent upon the condition of the brain. The nervous system generally, is in a state of excitement, causing an incontrollable desire to expend its energies in excessive muscular action. This restlessness, however, is not met with in all cases. In gay mania, in mania with fear and anxiety, it is common; but in morose and sullen mania, the patient will often retain one position for a considerable time. But even under such circumstances, the clenching of teeth and hands, the half involuntary movement of the limbs, evidently restrained by the will, indicate strong impulse to action.

The condition of the mental faculties, in acute mania, presents the widest differences. In many instances, no trace of delusion can be discovered in a patient who is vociferating, swearing, laughing, reproaching, in constant movement, and without sleep. The observations and the remarks are sometimes found to have a certain kind of cleverness and shrewd appreciation of all that is taking place. The attention skips from object to object with choreic rapidity and abruptness, causing exaggerated and absurd emotional states, but, in many instances, not falsifying the judgment. In most instances, however, delusions and hallucinations exist, and the task of detecting them is not difficult; for in this form of disease the patient is so demonstrable, that he usually dins his delusion into your ears.

Hallucinations appear to be more frequent in acute mania than delusions proper, and also more frequent than they are in any other form of insanity. Hallucinations of sight are most common. In acute mania, patients see the Deity, angels, and devils; hear music and voices; and have a hundred hallucinations of the same sort, far more frequently than in other forms of insanity.

Little address is required, on the part of the physician, to make himself acquainted with the intellectual and emotional perversions of these demonstrable patients, or to decide as to the existence of disease. The conditions with which it is possible that acute mania may be founded, are drunkenness, delirium tremens, the delirium of fever, and inflammation of the brain and its membranes.

To distinguish acute mania from the ordinary cases of excitement from intoxicating liquors, it will be enough to observe, that the drunkard can be recalled to a sense of his position, that his excitement soon passes into drowsiness and tendency to coma, and that he has no real delusions or hallucinations. Frequently the stomach is

deranged, and the intoxicating liquid can be smelt in the breath. The mental symptoms of ordinary drunkenness are mild and pale when contrasted with those of acute mania. But there is a form of drunkenness in which the distinction is difficult, and not always possible. Persons who have suffered attacks of insanity, or of inflammation of the brain, or wounds of the head, are liable to a train of symptoms, when they become intoxicated, which are identical with acute mania. Drunkenness of this kind is not to be diagnosed from the disease under consideration; it is, indeed, the disease itself, so long as it lasts. The symptoms often, but not always subside when the alcoholic stimulus has passed out of the system. The cause of the maniacal symptoms, and their short duration, are the only indications that this condition is a dangerous variety of drunkenness.

Another variety of delirium from drink is only to be distinguished from mania proper by a knowledge of its cause. It is the delirium which sometimes comes on at the termination of a long debauch. When a man has been drunk for many successive days, a form of active delirium occasionally supervenes, in which the symptoms resemble those of mania, and not those of delirium tremens. This delirium is caused by excessive alcoholic stimulation, and not by the withdrawal of a stimulus, as in delirium tremens. The countenance and conjunctiva are congested, the pulse is full, the skin is hot, and the delirium is loud and violent. There are no symptoms by which this form of delirium can be distinguished from acute mania.

The diagnosis between delirium tremens and acute mania can be made by observing in the former the peculiar muscular tremor, from which it derives its name, and the more remarkable and distinctive feature presented by the character of the illusions and hallucinations, which are always fearful, and of a pursuing and persecuting character. Snakes are about the bed, robbers are breaking into the house, fiends are getting in at the window or down the chimney. Or if there is no decided hallucination of this kind, there is an anxious desire to do some particular thing, generally connected with the ordinary occupation of the patient. In delirium tremens the skin is colder and more clammy, the pulse is more feeble, the tongue more white and tremulous, than in acute mania.

The diagnosis of meningitis from mania is made by observing in the former premonitory rigors, and excessive cephalalgia, followed by acute febrile disturbance of the organism, a bounding pulse, a hot and dry skin, a prominent and bloodshot eye, a contracted pupil with

a great intolerance of light, accompanied by a fierce delirium, in which illusions of the senses are common. In acute mania many of these symptoms are often absent, and those which do present themselves have much less intensity than in cerebral inflammation. In cerebral inflammation, tendency to muscular exertion, so common in mania, is absent, or only demonstrates itself in brief actions instigated by the delirium. The emotional disturbance is less remarkable than in mania. The affection also tends rapidly to terminate in recovery or in death. In the latter case convulsions supervene, the pulse becomes rapid and small, the pupil dilates, the skin is covered with clammy sweats, and the vital powers gradually fail; death may also come on more rapidly from coma. This rapid sinking is not observed in mania. Some patients do indeed die suddenly from what is called maniacal exhaustion, the immediate cause of death being syncope; but even in these cases the course of the disease is more prolonged than in fatal instances of cerebral inflammation.

The only forms of mental disease for which acute mania may be mistaken, are acute melancholia, and the excitement which occurs in some instances of general paralysis.

Between acute mania, and acute melancholia, no distinct line of demarcation can be drawn. The domains of the two diseases overlap so much, that in practice, cases not unfrequently present themselves, which may with equal propriety be referred to the one or to the other; cases which we may call acute mania with melancholic depression, or acute melancholia with maniacal excitement. The typical forms of the two diseases are, however, sufficiently distinct. In acute mania the emotions are expansive, and when not decidedly gay, they tend to anger rather than to sorrow, and intellectual perversions are common; but in acute melancholia, the prevailing characteristics are self-depreciation, terror at some supposed evil which is present, or dread of something which is impending. The thing feared may or may not have an existence; if it has no existence, the fear of it is a delusion; but beyond this, acute melancholia is frequently unattended by any perversion of the intellectual faculties.

The maniacal excitement which attends general paralysis is distinguished by the muscular tremors of the tongue and lips, by the catch of the voice, and the other symptoms which accompany this insidious disease; and also by the peculiar nature of the delusions, which, in the great majority of instances, run upon the possession of vast wealth, power, strength, or position. The excited state of general

paralysis, which may be mistaken for acute mania, rarely lasts more than from ten to thirty days. After that time the excitement subsides, while the delusions and the muscular symptoms remain, and the nature of the disease becomes apparent.

Chronic mania has to be diagnosed from malingering, from eccentricity, or from sanity. There are no non-mental diseases for which it can be mistaken. The symptoms of chronic mania present themselves in such infinite variety, that it is extremely difficult to round them within the compass of a description which will be sufficiently brief for the purpose of comparison. Chronic mania, in the sense in which we use it, as distinct from incomplete mania, is in most instances the result and the remainder of the more acute form. It represents the rudderless and shattered state of the vessel after the tornado of raving madness has swept by. The wreck is left in every variety of condition; sometimes sail enough remains to keep her head to wind; sometimes she lies upon the waters, a log, in the helpless state of consecutive dementia. In chronic mania of this kind, there is always more or less of dementia; and the loss of mental power is to a great extent diagnostic between chronic mania, which is consecutive upon acute mania, cerebral inflammation, or typhus; and chronic mania which has resulted from moral shocks or from physical causes less injurious than the above to the organic integrity of the brain. Chronic mania, which has not passed through the acute stage, frequently presents a remarkable vigor of the intellectual functions, in so far as they are not affected by delusion. Patients with this form of disease, not only retain the perceptive faculties in all their activity, but the memory, also, is found to be tenacious; and even the judgment, on matters unconnected with the delusive opinions and perverted emotions peculiar to the case, may be found to be sufficiently trustworthy. It will be asked, how such a case is to be distinguished from one of monomania? and, in truth, the distinction between the two is not very observable in practice; though, if we accept the current descriptions of monomania, the distinction would be easy. It is unnecessary to embarrass our present subject, by discussing the existence of book-drawn monomania; for the present purpose it is sufficient to observe, that primary chronic mania runs insensibly into the nearest approach to monomania with which we are acquainted. In some cases the delusions are numerous; in others they are few; in others there is but one; one, however, indissolubly connected with other grave lesions of mental powers.

Incomplete Primary Mania is often to be recognized by the existence of a decidedly abnormal state of the emotions and sentiments, without discoverable intellectual lesion. This symptom is more constant and valuable than any other; the difficulty lies in proving the abnormality. When friends and relatives are detested and abused, and the objects of natural affection are overwhelmed with invective, when all things sacred are made the subject of blasphemy, it is easy enough to point to the moral perversion which has taken place. But the slighter shades of perverted emotion require all the adroitness of the experienced alienist to detect. Absurd opinions are generally coexistent and allied with perverted emotions. Very frequently they appear to be consequences of the former. It is not easy, however, to prove which is the first phenomenon in the series of causation. When a mother, for instance, detests her child, and believes herself to have been poisoned by it, it is not easy to demonstrate whether the false belief arises from the perverted emotion, or the contrary. However this may be, perverted emotions and delusions proper, are frequent, and almost constant symptoms in chronic primary mania. Hallucinations and illusions are more rare. Hallucinations present themselves more frequently in consecutive chronic mania, where the intellectual functions are permanently weakened. These are general rules, to which, however, exceptions are by no means unfrequent. One important exception is presented in the frequency, in primary mania, of hallucinations referrible to the patient's own body, and dependent upon peculiar states of pain, or palsy of feeling, owing to abnormal conditions of the nervous system, or of the viscera; as when living animals are supposed to occupy the various cavities of the body, in consequence of sensations of pain and fluttering, or irregular or internal movements, caused by chronic inflammations or cardiac palpitations, or intestinal flatulence, or cramps, or when various parts of the body are supposed to be converted into inanimate substances, in consequence of palsied sensation.

The only disease we have known to be mistaken for this form of insanity, is exaggerated *Hysteria*. The diagnosis must be made by observing the sex, age, constitution, and character of the patient, which, to the experienced physician, will generally reveal the nature of hysterical attacks, whatever form they may assume. They do sometimes assume the form of mania, with violent general excitement, and strongly pronounced moral perversions. These may be

looked upon as the proper symptoms of the disease; but hysterical patients have been known to feign delusions and hallucinations, just as they will feign everything else. The hysterical type of the patient, the paroxysmal nature of the excitement, and the contradictions in which she may be detected when closely examined upon the circumstances of her supposed delusions, will rarely fail to detect the comparatively harmless nature of the affection. This will be the more easy, if the effect of remedies appropriate to hysteria can be tried. But hysteria does sometimes pass into real mania, and carry with it some of its own peculiarities. In all the instances in which we have observed this transition, there has been a strong hereditary tendency to insanity. The transition has been marked by an obvious febrile crisis, and by that most important symptom of early mania, loss of sleep. The medical man must, therefore, exercise due caution, in avoiding to pronounce any case to be purely hysterical because it has once been so. If, in a young woman of hysterical temperament, the perverted sentiments and desires, the strange conduct and excited demeanor pass into a febrile stage, accompanied by a rapid pulse, by loss of sleep, and by delusion or hallucination, hysteria has passed into mania. Patients are even met with, in whom periods of hysterical and maniacal excitement alternate; and it is not difficult to distinguish in them, the period when the superficial disorder presents itself, and when it yields to the more profound and serious disease.

The Diagnosis of Mania from Sanity, or, in plainer terms, the recognition of mania, is sufficiently simple when all or several of its symptoms are present in a marked degree; but when only a few of its symptoms exist, in a doubtful and incomplete form, its recognition is arduous in the extreme. If the physician is fortunate enough to obtain a history of his patient, his difficulties are greatly lessened. For instance: suppose a case in which the physician is informed that the parents of the patient were insane before his birth,—that he had had a fever, a blow on the head, or a severe disappointment, and that, soon afterwards, he had become delirious, with loss of sleep, and violent conduct, and, in fact, had had an attack of acute mania; that, on the subsidence of these symptoms, he had passed into a more tranquil condition, and had recovered his bodily health. If, upon this history, the physician found his patient, with the physiognomy of mania, the furrowed countenance, wild eye, and dislocated expression of the several features; if he found, on interrogating him, that

he had unreasonable antipathies to his friends, that he had an extraordinary state of feeling and sentiment,—intense pride, for instance, or obstinacy, or selfishness, or vanity; if he found that his sentiments had changed,—if, for instance, from being religious and moral, he had become impious and dissolute; if, from being benevolent and truthful, he had become cruel, base, and false; if, moreover, he found that his conduct was restless, and his actions unreasonable; and if, in conversation, he found that the powers of concentration and of memory were deficient, he would scarcely want the further evidence of actual delusion, to drive home and clench the opinion of his insanity. But, if all cases were as plain as the one here supposed, no skill would be required to form a judgment upon them. Ploughmen and blacksmiths would be sufficient to say that such men were insane. The opinion of the physician is really required in difficult and balancing cases, and for these no positive rules can be laid down like those of a code of maritime signals. The history of the patient may be wanting, or may only be obtainable from ignorant persons, who cannot describe it for want of observation; or from prejudiced persons, who will not describe it truly for lack of honesty. The physician will then be thrown entirely upon his own resources, and compelled to determine solely from the appearance, conduct, and conversation of the patient.

It is rare, indeed, to meet with a person suffering from any form of mania, who does not bear some impress of his disease in his countenance, his bearing, and his demeanor. The characters may, perhaps, be dubious, and almost illegible to the inexperienced eye; but as it is the purpose of this essay to direct the observation and assist the discrimination of such an eye, we shall mention many of these slight characteristics, at the risk of appearing tediously minute to the man of experience.

The physiognomical symptoms have already been commented upon. The principal characteristic, in many of the patients, is the peculiar want of harmony in the expression of the features. In others, the fixed expression of some intense emotion is remarkable; of defiant pride, of sullen obstinacy, of smirking vanity, or of leering sensuality. A twitching of the orbicularis, or of other facial muscles, is not uncommon. In a great many cases of chronic mania, the hair becomes harsh and bristling, and the skin of the scalp becomes loose. The medical man should never omit to examine the ears. The discovery of a shrivelled ear tells an undeniable tale of profound mental

disease. Altogether, the effect of mania, and, indeed, of all forms of insanity, is to stamp upon the patient a remarkable degree of ugliness; and there is no symptom of returning mental health more trustworthy and more pleasing than the restoration of personal beauty. Among the female patients of large lunatic asylums, not a single good-looking woman is often to be seen, except those who are convalescent, or those who are enjoying a prolonged interval of tranquillity and amelioration.

The demeanor of the patient is often like the expression of his face —defiant, or sullen, or restless, or each alternately; or it is the statue-like quietude of absorption; or it is careless or negligent. Sometimes the head, or some other part of the body, is twitched convulsively; sometimes the hands are rubbed together perpetually, or the patient stands on one foot at a time, or in walking he slithers his feet, or he crouches or kneels, or indulges in some other bizarre movement. Rarely, indeed, is the demeanor of a patient suffering from primary or chronic mania, exactly that of a sane man. The condition of the patient's clothes is rarely devoid of significance; they are frequently ill-arranged and dirty; they are also frequently strange, from some attempt on the part of the patient to impress upon them some peculiarity—for instance, a military or clerical character; or they present a studious coarseness and simplicity; or, on the other hand, an excess of ornament.

The physician passes from the observation of the signs to the active investigation of the mental state, by questioning and conversing with the patient. In most cases, it is well to commence by drawing the patient into a conversation on the most ordinary and natural topics. These will serve to test his power of attention, and to establish some confidence between the parties. If the physician is quite without clue to the state of the patient's mind, he will do well to observe some order in his examination thereof. By so doing, he will save time and trouble; and should the delusions be limited in number and extent, he will be more likely to avoid overlooking them. The delusions which are unconnected with the patient's individuality are few and unimportant. Hence it arises, that if the physician can induce the patient to enter regularly into a description of his own sentiments and opinions respecting himself, he will seldom be left long in the dark respecting the nature of the delusive ideas. This will especially be the case if the physician has the forethought and the tact to lead the patient to talk about himself, in his various relations to his pro-

perty, his friends and relatives, his business, his health, his ambition, and his religious hopes. If the physician will range and quarter the extent of his patient's mind, as a well-trained pointer does a stubble-field, he will rarely allow any delusion to escape undetected. But if he wanders at random, he may expend his labor upon fruitless inquiries. Any order is better than none; but the order of inquiry which would most readily suggest itself—namely, that of examining the state of the mental faculties, one after the other—is not, in practice, the most successful. After testing the fundamental faculties, the attention, the memory and recollection, and the judgment, which may be done by ordinary conversation on any subject, it will be well to give up the idea of any metaphysical or phrenological system of mind, and to conduct the further examination upon a plan laid down upon the active duties and relations of life. The patient may be led to give an account of his own powers of body and mind, with reference to health, to exercise, diet, and study. Thousands of delusions are entertained by insane people upon these subjects. He may then be led to converse respecting his possessions, his means of livelihood, and his hopes of advancement in rank or property; such conversation will open up the delusions of pride, ambition, and acquisitiveness. He may then be led to converse of his near relatives and friends, and especially respecting his birth and parentage, stress being laid upon his belief whether his parents were his actual and real parents. This inquiry will tend to open up any delusions respecting imaginary greatness, and any perverted emotions towards those who ought to be dear to him. The subject of religious opinion may then be introduced. The religious devotions and exercises which he practises may be inquired into, with the reasonable expectation of finding insane delusions on a subject which touches the deepest sentiments of the soul. If the patient is an educated man, it will be right to converse with him upon politics and upon science. If he can stand the test of a discriminating inquiry on these and similar subjects, he certainly cannot be the subject of mania; and if he has any delusions, he must either retain the power of hiding them, or they must exist in some obscure corner of the brain, from which they are little likely to influence, with any force, the opinions, the feelings, or the conduct.

Perverted propensities and instincts come under the province of observation, and cannot usually be elicited by verbal examination. Indecorous conduct towards the opposite sex, ravenous and perverted

appetite, filthy and unnatural habits, may be ascertained by watching a patient, or from the evidence of those around him.

On all the subjects above mentioned, in opinion, sentiment, instinct, and conduct, the chronic insane differ to a greater or less extent from their fellow-creatures; and, what is generally of more importance, from themselves. If it can be ascertained that the points of difference have been consequent upon some cause potent in the production of mental disease, before the operation of which cause the patient was like other men, there can be no hesitation in setting down all the discoverable differences to the account of insanity. But the assistance of etiology is not always available in diagnosis; either the former history of the patient may be out of reach, or it may prove that the differences between him and other men have existed from an early period of life. It would be incorrect to say that some men are born maniacal, as others are born idiotic; but it is perfectly correct to say that some men are born with so strong a tendency to mania, that the disease gradually develops itself in very early life, in such a manner, that it is impossible to compare the mature maniac with any previous condition of his former self in which he may be predicated as of sound mind.

In such instances, the strangeness of thought, feeling, and conduct, can only be compared with a standard of human qualities as they exist in the race. The standard of mental health is necessarily transferred from the individual to the kind; and although it may be more difficult to appreciate deviations from the latter, because the standard itself is not only more variable, but also further removed from comparison, still it may be made use of. "Mankind are by nature so closely united, there is such a correspondence between the inward sensations of one man and those of another," that any considerable deviation from the principles of thought and feeling common to the race, may justly be set down to causes more profound than the superficial influences of "those merely nominal relations which hold men together in little fraternities and copartnerships."—(*Butler's Sermons.*) The effect of such cause, which alters the disposition and bias of nature, is properly called disease, when it depends upon a pathological state of the brain; when such a state cannot be predicated, it is referred to eccentricity.

The Diagnosis of Eccentricity is only likely to be required in cases of disputed will, or in criminal trials where eccentric conduct is seized upon to support the plea of insanity. There appear to be two

forms of eccentricity, radically distinct. The one arises from an excess of what phrenologists call individuality. With little regard for the opinions of others, the eccentric man of this class strikes out a path for himself in all matters, both of opinion and of conduct; such a man is often endowed with more than an average portion of good sense and of moral courage, although his sense is founded upon reasonings marked out by his own mind from propositions laid down by himself, and adverse to the common sense or consense of those among whom his lot is cast; and his moral courage is displayed in adhesion to his own opinions, and in setting at nought the ill-founded ridicule of the world. Goldsmith gives an admirable sketch of this species of eccentricity in the character of Burchel. It may safely be affirmed, that an eccentric man of this type is further removed from the chances of insanity than most of the sane people upon whose prejudices and fantasies he sets a remorseless foot. Such a man possesses the minimum of vanity, and is therefore not easily wounded by events which would overwhelm others with disgrace and chagrin. His intelligence is generally clear and untrammelled, and little liable to be made the sport of his passions. His emotions may be strong, but they are under control. He steers an independent course, far from the fleet of common minds under the convoy of recognized authority; and, in the storms of life, he battles vigorously against disaster, and resists shipwreck better than most men. The French philosopher, La Bruyère, recognizes eccentricity, when held within the limits of reason, to be in some sort the characteristic of superior intelligence and integrity. "Le commune des hommes est si enclin au dérèglement et à la bagatelle, et le monde est si plein d'exemples ou pernicieux ou ridicules, que je crorais assez que l'esprit de singularité, s'il pouvait avoir ses bornes et ne pas aller trop loin, approcherait fort de la droit raison et d'une conduit régulière."

The eccentric man of the second class deviates from the ways of his fellow-men from weakness of judgment, from love of applause, and the desire of drawing upon himself the attention of others; from conduct ill-regulated and influenced only by vacillating emotions, strong and weak, according to the caprice of the hour. Men touched with imbecility are almost always eccentric; if the imbecility is secondary upon an attack of acute mental disease—that is, if it is, strictly speaking, slight dementia—they are always eccentric. Partial imbeciles, with gentle and affectionate dispositions, may, by careful and good training, avoid all devious paths in conduct. As a

rule, however, a large proportion of the persons who become laughing-stocks on account of absurd vanities, or who become troublesome and mischievous to their friends or the public, on account of absurd scheming or ridiculous behavior, will be found to have intellectual powers of the lowest order, great desire of approbation, and little individuality.

This form of eccentricity is often nearly allied to insanity, and is often premonitory to it. Its subjects are to be found in families tainted with hereditary predisposition to mental disease; and it merges so gradually and insensibly into mental disease, that the lines of demarcation are traceable only with the greatest difficulty, and, indeed, often are not to be traced at all. In many cases, however, the transition is marked by perversion of the emotions, by unfounded suspicions, anxieties, and antipathies, and also by signs of physical disturbance, by sleeplessness and general feverishness. Eccentricity of this kind and insanity overlap at the edges, so that there is a region in which either condition may be predicated of its objects. On each side of this region the distinction may be drawn, by observing, in eccentricity, that the intellectual faculties are in no way perverted, and, with the exception of the judgment, that they are not even defective. The practical judgment is invariably weak; the character is marked by obstinacy or fickleness; unaccountable states of emotion often present themselves, but they are remarkable for their strangeness, rather than their force. The perverted emotions of the eccentric man are feeble in comparison with those of the lunatic, and it is seldom that they result in offences against the law. The propensities of the eccentric man are normal, and his countenance, demeanor, and state of muscular activity, are devoid of the signs of insanity.

There is a form of apparent eccentricity, which is, in truth, a state of latent insanity. In this form the intellect may be vigorous, but the emotions are invariably morbid. There is more than a tinge of melancholy in the feelings and sentiments; and this, reacting upon the imagination, gives rise to opinions and conduct strangely at variance not only with the common ways of men, but with the vigorous intelligence of the individual. Such a man was Samuel Johnson. Such men may be less liable to insanity than the eccentric and vain imbecile; but it may be affirmed of them, that they never enjoy the free and healthy action of all the functions, mental and bodily, the *mens sana in corpore sano*. Such men are neither altogether eccen-

tric, nor altogether alienated from the sane portion of mankind; their course of life is often vigorous and decided; and although, owing to the mental bias, they move in curved lines, still the bias is calculable, and the line of progress determined.

Diagnosis of Melancholia.—Before the time of Esquirol, all the forms of partial insanity were included under the term melancholia; but, since the general adoption of the term monomania, suggested by him, melancholia has frequently been included under this term. This is not less an error than the former, for melancholia and monomania are distinct diseases, although they constantly and greatly encroach upon and run into each other. In pure melancholia the intellectual faculties are not involved; it presents the most indubitable example of emotional insanity. We have seen cases the very converse of melancholia, in which gaiety and cheerfulness, fun, frolic, and delight, without the slightest trace of delusion or erroneous opinion, have been the symptoms of mental disease; known to be such from their etiology, from their physical symptoms, the effect of remedies, and their results. Such cases are too rare to justify any alteration of nosological arrangements for the purpose of including them, and they are generally noticed as instances of mania. They are, however, cases of purely emotional insanity, forming the converse of those far more numerous cases in which the sentiments and feelings are sad, gloomy, and fearful.

Melancholia is frequently hereditary; that is, not only is the tendency to insanity, but the tendency to this particular form of insanity, transmitted. It is occasioned by all the moral causes of mental disease; especially by griefs, disappointments, reverses, and anxieties of every kind. It is also caused by long-continued ill-health, occasioned by the infraction of the laws of hygiene; and it is the most frequent form of mental disorder which accompanies the grand climacteric of women. It is very needful to bear in mind the etiology of mental disease, in attempting to form an opinion of uncomplicated melancholia; because these symptoms vary in degree, but not in kind, from that normal and healthy grief and sorrow, of which all men have their share in this chequered existence.

Some writers on insanity assert that melancholia is frequently a mere growth from a state of normal grief and low spirits. According to our experience, this statement is incorrect, or has only a slight and fallacious foundation in the accidental occurrence of real causes of normal grief simultaneously with the pathological causes of melancholia.

An occurrence which would produce normal grief in a person not predisposed to mental disease, produces melancholia in a person who is so predisposed. In such a case, it may only be possible to found a distinction upon the relative intensity of the natural, and of the pathological emotion. In other instances, melancholia is produced by causes which have no power over the normal emotions; and, in such cases, the consideration of the etiology is an important point in the diagnosis.

The symptoms of melancholia are sorrow, despondency, fear, and despair, existing in a degree far beyond the intensity in which these emotions usually affect the sane mind, even under circumstances most capable of producing them; and in numerous instances existing without any commensurate moral cause, and often without any moral cause whatever.

Grief, fear, and anxiety, are natural to the mind; delusion and hallucination are unnatural; therefore it is that the existence of the latter affords much greater help to diagnosis than that of the former. Disease has to be ascertained from the degree and origin of the former, while the mere existence of delusion is often enough to guide the judgment. To adopt a term from other forms of disease: melancholia is an homologous affection, while mania and monomania are heterologous. It is, however, not less a diseased condition, although it is more difficult to determine at what point the disease commences. Just as in early stages of fatty liver it is difficult to pronounce whether the organ is in a state of disease or not, because fat is a natural constituent of the liver. But cancer of the liver is easily detected at an early stage, because it is a heterologous formation, and easily distinguished from the neighboring parts. But, when the whole texture of the liver has become transformed into fat, and when this transformation is contemporaneous with other pathological changes, intimately connected with its production, its nature is perfectly obvious and apparent. So with emotional diseases of the brain; at their commencement it is often impossible to be certain of their nature; one must wait awhile to observe their course. But, when the whole tissue of the mind is stretched in one direction, when all the faculties are swallowed up in one overwhelming emotion, there can be no more hesitation respecting the pathological state. No mental disease stamps itself more legibly upon the physiognomy and demeanor of the patient than melancholia; the sad and anxious eye, the drooping brow, the painful mouth, the attenuated and careworn features, the

muddy complexion and harsh skin, the inertia of body, the stooping and crouching postures, the slow and heavy movement, speak of distressing oppression of the faculties, and intense wretchedness. In other cases, fearful anxiety is added, and the eye becomes bright, the nostrils dilated, the movements quick, irritable, and often impassioned, under the influence of some vague terror. If the physician can note the above symptoms, and can trace them to a cause productive of insanity, he will have little difficulty in pronouncing his patient insane, although he can discover no trace of delusion. In many instances of this kind, the patient is painfully conscious of the nature of his malady; he not only knows that he is insane, but will seldom attempt to conceal his consciousness thereof from any considerate and sympathizing inquirer. Milder cases of this kind do not always require the restraints of an asylum, but they do require those cheerful influences of kind friends, change of scene, and mental diversion, which would be resorted to if the case were one of ordinary and healthy grief. The fear of suicide, and the possibility of preventing it, is that which here gives value to a positive diagnosis.

Pure melancholia is frequently preceded by a brief period of general mental excitement; and, in many cases, short periods occur, during the course of this disorder, in which the symptoms verge upon those of mania. Two or three sleepless nights occur, the patient becomes irritable and restless, and talks on the subject of his grief with vehemence; he soon, however, relapses into the dull and languid monotony of his former condition.

Melancholia tends to the development of delusion; and, in four cases out of five of melancholia, delusion will be found to exist. By delusion, we do not mean an exaggerated self-depreciation, or an excessive sensibility to the supposed neglect of friends, or to words construed into expressions of reproach. These, doubtless, indicate weakness of judgment, and may, perhaps, strictly be considered as a proof that the intellectual functions are not wholly sound. But, by delusion, I mean an intellectual error, caused by the pathological condition of the mind, and displaying itself in false sensation, perception, or conception, an illusion, hallucination, or delusion proper. The melancholic who simply believes, in the earliest stages of his malady, that he is unworthy of God's favor, and too wicked to enjoy peace in this life, or felicity in the future; by dwelling upon these ideas,—the result of emotional rather than of intellectual operations,—comes eventually to believe, either, first,—that he is a devil incar-

nate, a delusion; or, second,—that he hears the voices and sees the forms of fiends, a hallucination; or, third,—he refers gastric pains to an internal devil, an illusion causing one form of demonomania.

The delusions of melancholiacs are frequently single; and hence the intimate connection between this form of disease and monomania. They also are frequently concealed by the patient, as before said. The pure melancholic is conscious of his disease; he is also painfully conscious of the delusions which engraft themselves upon it. He struggles against them himself, and endeavors to conceal them from others. The delusions of mania are obtruded upon the notice of the physician by the demonstrative vehemence of the patient; but the delusions of melancholia must be sought for carefully, skilfully, and patiently. The physician must throw his grappling-iron in every direction, and expects to draw it up empty many times before he lays hold of the sunken cable. But if, with adroit management, and sympathizing gentleness, he inquires into the patient's feelings and opinions in relation to the Deity, and to the future life; in relation to his friends and property; in relation to his social position and expectations; and in relation to his bodily health, personal habits, &c., it is improbable that any established delusion can long escape his notice. Melancholic patients will, however, not only conceal, but sometimes deny their delusions. When this is the case, there is no remedy but patience and prolonged observation. The delusion which may be repudiated to-day will be imperious and undeniable in a week's or a month's time. Melancholia proper, passing into monomania, is essentially a chronic disease, and its symptoms cannot be observed before they have become developed.

There are two varieties of melancholia proper met with in the field of actual observation. In one, the emotional functions involved are those of sorrow and regret. These emotions dwell upon what has already taken place; and the mental anguish of the present is derived from the contemplation of the irrevocable past.

In a second form of melancholia, the emotions indicated are those of apprehension, fear, terror, in all its modes of expression. Excessive anxiety, or that form of mental disease which the Germans call *angstgefühl*, and which is often seen in our wards, but not yet placed in our nosologies, belongs to this variety. The mental pain occasioned by these emotions arises from the anticipation of future misery. Esquirol's term of lypemania ought to be restricted to the former variety. Cases are actually met with in practice, in which

the present anguish of mental disease is occasioned solely by the contemplation of the past, or solely by the contemplation of the future. In a strict nosology, it would be well to restrict the term lypemania to the former, and pantophobia to the latter of these varieties of mental disease. The large majority of instances, however, of depressive emotional insanity, are compounded of fear and sorrow, in ever-varying proportions.

Melancholia Attonita.—Melancholia sometimes assumes a form which may be mistaken for extreme dementia. This form was recognized by Dr. Burrows, who says, speaking of melancholiacs, "Sometimes they are so wholly absorbed by one or more delusions, as to be almost lost even to animal instincts, and to the functions of automatic life." It has more recently been investigated at length by several French authors, and especially by the able editor of the *Annales Psychologiques*, M. Baillarger. It is called by him *Melancolie avec stupeur*, and is said to be composed of two forms of mental affection, namely, of the sadness, self-deprecation, and motionless fear of melancholia; and the embarrassment of thought, and slowness of conception, and intellectual inertia of primary dementia or stupor. The patient stands or sits in one fixed position, or walks slowly to and fro, in one unvarying movement. The calls of nature are not attended to, and the patient has often to be fed, dressed, and removed from one room to another by force; he maintains an obstinate silence, or mutters unintelligibly to himself. A strong tendency to suicide frequently exists, and sometimes the patient undergoes an accession of temporary excitement. The expression of the countenance is peculiar,—it is that of intense reverie, or petrified thought. When the patient recovers, he is found to have fully retained his consciousness of all that has happened to him, and of all the events which have fallen under his notice; and it is usually found that his mind has been absorbed by some fearful hallucination or delusion. One has thought himself standing to the chin in a sea of blood, another surrounded by the dead bodies of his relations. These cases of melancholia, resembling profound dementia, may be distinguished from the latter malady—First, by the expression of the countenance, which, in melancholia, is contracted, and marked by an intense although an immovable expression; and, in dementia, is relaxed and expressionless. Second, in abstracted melancholy the patient resists being moved, sleeps badly, and often refuses food; in dementia, he complies with the wishes of the attendants, has a good appetite, and

sleeps well. Third, in abstracted melancholy the bodily functions are more seriously affected than in dementia; the body is emaciated, the complexion is sallow, the skin is harsh, and the secretions generally deranged; whereas in dementia the body often retains its plumpness, and the secretions are little altered from a healthy standard. Fourth, after recovery, the patient who has been affected with abstracted melancholy, is found to have retained his consciousness through the whole period of his disease; when recovery takes place from primary dementia, the past is found to have left no traces in the memory.

Diagnosis of Melancholia from Hypochondriasis.—This is sometimes a most delicate and difficult question to determine. In the trial of Buranelli, who was executed in London, in 1855, for the murder of one Lambert, it was of the utmost importance to determine whether certain absurd opinions, which the prisoner had entertained respecting the existence and nature of a fistula, were the result of mental disease (melancholia) or hypochondriasis, which it appears to have been assumed is not a mental disease. In the general truth of this assumption we must agree, although there is no doubt that hypochondriasis sometimes terminates in true melancholia; and that original melancholia is sometimes marked by many of the symptoms of hypochondriasis.

Until recent times, it appears that many cases of true insanity were regarded as instances of hypochondriasis. Galen and other ancient authors described hypochondriasis as a species of melancholy; and, in later times, Pinel and other authors of authority included it in their classification of mental disorders. "Joseph Frank included among hypochondriacs those melancholics who imagine that their body is made of butter, as did Gaspard Barlœus, a distinguished physician of the seventeenth century; of mud, like a patient spoken of by Aretæus; of wax, like one who was observed by Grimm; of glass, like a philosopher who was described to Sanchez by Boerhaave. Such persons avoid heat, lest they should be melted; they forbear to drink, lest they should be dissolved; or they continually remain sitting, in order to avoid being broken. Frank also confounded with hypochondriacs, persons who believe themselves turned into animals (zoanthropes), and all other monomaniacs who have false ideas or perceptions relative to their individuality. This opinion was an error, which vanished before a more profound classification of mental disorders." (*Michéa, Traité de l'Hypochondrie.*)

It is therefore certain, that hypochondriasis and melancholic monomania were not clearly distinguished by physicians until recent years. Prichard, however, distinguished between the two affections, with his usual clearness and precision. He observed, "that a hypochondriac is in full possession of his reason, though his sufferings are not so dangerous or so severe as he supposes; *but if he declares that his head or his nose has become too large to pass through a doorway, or displays any other hallucination, he has become a lunatic;* his disorder has changed its nature; and this conversion takes place occasionally, though by no means so frequently as is supposed." "Hypochondriacs, however low-spirited or dejected, also suffer differently from persons affected with melancholy. The apprehensions of the former are confined to their own feelings and bodily health. On other subjects they converse cheerfully, rationally, and justly. But melancholiacs view all things through a gloomy medium. They despond on all subjects, and are mentally miserable, and independently of any severe bodily suffering. The affections and sentiments of the hypochondriac, especially to his former friends or his connections, are not in the unnatural or perverted state observed in all the forms of insanity."

We must not omit the diagnosis between these two diseases, drawn by the masterly pen of Cullen, than whom no medical writer has ever been more accurate and logical in his discrimination of disease, according to the light which he possessed. He says:

"Hypochondriasis I would consider as being always attended with dyspeptic symptoms; and though there may be, at the same time, an anxious melancholic fear arising from the feeling of these symptoms, yet while this fear is only a mistaken judgment with respect to the state of the person's own health, and to the danger to be from thence apprehended, I would still consider the disease as a hypochondriasis, and as distinct from the proper melancholia; but when an anxious fear and despondency arise from a mistaken judgment with respect to other circumstances than those of health, and more especially when the person is at the same time without any dyspeptic symptoms, every one will readily allow this to be a disease widely different from both dyspepsia and hypochondriasis, and it is what I would strictly name melancholia.

"In this there seems little difficulty; but as an exquisitely melancholic temperament may induce a torpor and slowness in the action of the stomach, so it generally produces some dyspeptic symptoms,

and from thence there may be some difficulty in distinguishing such a case from hypochondriasis; but I would maintain, however, that when the characters of the temperament are strongly marked, and more particularly when the false judgment turns upon other subjects than that of health; or when, *though relative to the person's own body, it is of a groundless and absurd kind;* then, notwithstanding the appearance of some dyspeptic symptoms, the case is still to be considered as that of a melancholia, rather than a hypochondriasis."

Crichton maintains that the different origin of the two is the most characteristic distinction between melancholia and hypochondriasis; the former seldom arising except mental causes join themselves to corporeal ones, the latter ensuing, in the first place, from bodily ailments alone.

Romberg, one of the most experienced and learned of writers on nervous diseases, lays stress upon another mark which distinguishes hypochondriasis from melancholia.

"Diagnostic errors are frequent from psychical hyperæsthesia being confounded with melancholia and hysteria. The characteristic peculiar to the former, as of insanity generally, consists in an alienation of the feeling of identity and consciousness, as regards sensations and impressions, and this in melancholia is combined with a tendency to self-negation.

"In hypochondriasis, on the contrary, the egotistic principle is exalted, and in no ways estranged to some other sensation or impression, so as to render this an apparent reality. The difference is clearly expressed in all the patient's relations, not excepting his relation to his physician. The hypochondriac looks upon his physician, however often he change his medical attendant, as his guardian and saviour; while the person laboring under melancholia treats him as if he were a hostile or ignorant individual, and constantly tries to avoid him." (Romberg, vol. i, p. 181, Sieveking's Translation.)

The points of this diagnosis may be summed up as follows: 1st. The cause of hypochondriasis is usually some form of dyspepsia, or some morbid state of the digestive organs—that of melancholia being some one of the ordinary causes of insanity. 2d. That the *quasi* hallucinations of the hypochondriac are usually such as may be attributed to exaggerated sensibility, and that they are subject to frequent variations, or entire change. The hallucinations of the melancholiac, on the contrary, even where they relate to the person's own body, are absurd and inexplicable, as the result of exaggerated sensibility.

They are, moreover, fixed and permanent. 3d. In hypochondriasis, the patient clings to his medical adviser for the time being, with the ardent desire of obtaining relief. The melancholiac more frequently repudiates the idea that he has any physical malady; and, consequently, he is apt to dislike and avoid the medical men with whom he comes in contact. 4th. The love of life and fear of death are prevailing characteristics of hypochondriasis. A frequent symptom of melancholia is disgust of life, attended with desire to commit suicide, which, when motiveless, is one of the surest marks of insanity. Suicide is never committed in simple hypochondriasis. 5th. In hypochondriasis, apart from the patient's judgment respecting the condition of his health, the intellectual power remains intact. In melancholia, the intelligence is sometimes greatly impaired. 6th. In hypochondriasis, apart from the selfishness generated by a constant regard to the state of his health, the emotions of the patient are in a normal state. He may, indeed, be wretched, selfish, fickle, and exacting; but he suffers from no perversion of the emotions, entertains no suspicions or antipathies towards his relatives and friends—no ideas of treachery, of pursuings, of criminal accusations against him on their part. In melancholia such ideas are common, and perversion of the emotions is a constant symptom.

Monomania.—This form of insanity is seldom primary. The great majority of cases are transformations from melancholia. In some instances, melancholia exists, for a time, without delusion; but at length the delusive idea develops itself, acquires consistency and strength, and thenceforth sustains and directs the course of the perverted emotions. After the development of the delusive idea, however, the emotional disease frequently subsides, or continues to exist in a milder form. In these cases, the single intellectual error becomes prominent, and easily attracts observation. In many other cases, it is not possible to distinguish between the period of emotional disturbance and that of intellectual aberration. The two appear to arise contemporaneously; and it may even seem that the intellectual aberration is first in order of time, and the emotional disturbance the consequence thereof. A man of wealth and reputation fancies that he is pursued by the police for fraudulent bankruptcy, and his mind is occupied by the most gloomy apprehensions and by the saddest regrets. If such a disease has developed itself slowly, it will be possible to observe the order of causation; and our own experience confirms that of M. Guislain, M. Brierre, and others, who affirm that

the emotional disturbance always occurs first, and the intellectual perversion takes place subsequently. When the symptoms of such a case develop themselves more rapidly, the emotional and intellectual phenomena cannot be observed in any order of succession. They appear to rise spontaneously; but since they do not rise spontaneously in those cases whose course can be observed, it is, we think, more probable that their apparent contemporaneousness is unreal, and dependent upon difficulties of observation, rather than that the succession of phenomena should be different in rapid cases to that which is observed to exist in slow ones.

It is of the utmost importance to trace the existence, past or present, of perverted emotion, in common with deluded opinion. Deluded opinion upon one subject, standing by itself, and without hallucination or perversion of the emotions or instincts, cannot be recognized as a form of insanity. The history of human error, and especially of religious error, affords such abundant examples of every species and every exaggeration of absurd opinion, that opinion or belief alone, without reference to the mode of its causation and its accompaniments, cannot be viewed as a type of insanity. The difference between a Mormonite, a Princeite, a clairvoyant, or a table-rapper, and a true monomaniac, depends upon this,—that in the former the absurd opinion is the natural consequence of ignorance, and inaptitude to apply rightly the faculties of observation and judgment; in the latter, it is one of a train of symptoms of a pathological condition of the brain, and is consequent upon the well-known causes of such a condition. Hence it results that the diagnosis of monomania is only to be effected by studious attention to the present condition of all the mental faculties, as bearing traces of more active disease passed by; and also to the antecedents of the patient, investigated in a manner at once minute and comprehensive. To take an actual example: Two persons each avow themselves to be the incarnate Son of God. In one instance, we find that the individual has, for years before the avowal, studied and interpreted the Scriptures in a mystical manner; that, although a clergyman, his judgment relating to matters of theology has always been of the most weak and errant kind; that, in consequence of his want of common sense and judgment, and of the vagaries of personal vanity, he has lost all chance of preferment in the regular course of his profession. As the world rejects him, he redoubles his mysticism, his vanity, and his spiritual pretensions; he persuades some washy-minded people to

believe in him, and to confer upon him the adulations which he demands in his character as the impersonation of God upon earth. This gentleman has displayed no emotional perversion. He was misplaced in the Church, which has developed all the weak points in his character. A feeble judgment, a prurient vanity, and a seething imagination, have made him what he is.

The counterpart of this picture is afforded by a patient under our care, the prominent characteristic of whose mental condition is the belief in exactly the same opinion avowed by the other. Three years ago this man was an industrious and well-informed artisan; he was sober, honest, but not particularly religious; he had a fever, and after the fever an attack of maniacal excitement. From this he appeared to recover, but his temper was altered; he became irritable, suspicious, and quarrelsome. After the lapse of more than a year, he declared himself to be the Son of God; his temper now improved; and at the present time the delusive opinion is, perhaps, as nearly the sole mental affection, as is ever seen in cases of so-called monomania. Occasionally, there are outbursts of violence towards those whom he thinks ought to obey him; but on the whole he is docile, and on other matters reasonable, and works industriously at his trade. There is this remarkable difference between the mystic and the madman,—that the former turns his delusion, and that of his dupes, to a profitable account, and lives more like a Sybarite than a Saviour; whereas the latter labors humbly at his calling, and adheres to his delusion, though he must feel that it costs him his liberty. A short residence in the wards of an asylum would, most probably, reduce the pretensions of the voluptuous mystic; but there is little fear that his absurd belief, if it is a belief, will impel him to conduct which will endanger the comfort or the safety of his person. The belief of the madman, on the other hand, is a real and dangerous one, which may lead him to the commission of any violence, either upon his own person or that of another.

In discussions which have recently taken place upon the reality of monomania, much confusion has arisen from the want of distinction between insanity upon a single subject, and insanity of a single faculty. The commonly accepted meaning of the term monomania, is that of insanity upon a single subject; but a delusive opinion of such a kind, even if the subject is of the most simple nature, and most unlikely to involve the affective functions of the mind, cannot exist without the wrong action of several functions. Take for exam-

ple, the case mentioned by M. Esquirol, of Mlle. F., who was constantly in fear lest *something of value* should adhere to her which did not belong to her. She constantly rubbed her dress, lest something of value should be hid therein; sometimes she would touch nothing, not even food, lest something of value should adhere to it. She was on all other subjects intelligent, and in good health, and she sometimes laughed at her own absurdities. Esquirol says it was impossible to detect any disorder of her sensations, reason, or emotions. To our mind, it appears that, in this case, given as a typical example of monomania, both the reason and the emotions were undoubtedly affected, and that it is more than probable that the sensations were also involved. The patient took two or three hours to dress, so careful was she to rub her clothes, to wash, and to comb her hair, lest *something of value* should adhere to them. Surely the sensations of a healthy person would have ascertained the non-existence of this *something of value* in less time than two or three hours! The judgment was of course affected; otherwise a single comparison of her fantasy, with the actual conditions of reality, would have dispelled the delusion. The emotions of conscientiousness, and of fear, its near ally, were deeply implicated; their unhealthy excitation was indeed the probable groundwork of the whole delusive structure. Insanity on a single subject, therefore, implicates many of the faculties.

Monomania of a single faculty, in its strictly philosophical sense, is not to be discovered in delusion, however simple and circumscribed it may be. If it exists at all, it exists in the pathological condition of some one or other of the emotions or instincts. There can be no doubt that the sexual instinct is not unfrequently thrown into a state of extreme excitement, by pathological changes taking place in the nervous system. This painful form of disease not unfrequently presents itself during the semi-pathological changes of old age. Those who have been distinguished, during a long life, for prudence and propriety in their relations with the other sex, when, from old age, they have one foot in the grave, are sometimes seen to throw off all restraint, and to rush into the most reckless and disgusting libertinism. Whether or not this change of manners is accompanied by diseased processes in the brain, we have not yet been able to ascertain by observation. This, however, seems highly probable, since we have seen nymphomania end fatally in young women; and in these cases, in addition to false *corpora lutea*, we have found great cerebral conges-

tion. Excitement of the sexual functions may depend upon spinal irritation alone, the lascivious ideas being secondary results, just as ideas of food are the results and not the causes of hunger. Satyriasis and nymphomania, as examples of monomania, are, therefore, liable to the objection that they are spinal or cerebro-spinal affections, and independent of that part of the brain, which is the organ of the mental functions.

The desire of self-preservation appears to be intermediate between the instincts and the emotions. There can be no doubt that it is capable of being pathologically affected strictly by itself. Instances of suicidal insanity are not uncommon, in which this emotion is completely subverted, whilst no other function of the mind is touched. The unhappy patients reason and struggle against the fatal propensity, but in vain. The desire to die by one's own act appears to be the one mental symptom, and to present the most undoubted instance of disease affecting only one function. The majority of these cases are hereditary.

Occasionally, cases present themselves of an equally simple character, in which the desire of self-preservation is exalted. They differ somewhat from cases in which the sentiment of fear is exaggerated (Pantophobia). Excessive fear directs itself to other events besides that of death, and is more frequently complicated with delusive opinion or hallucination. Intense apprehension of death sometimes presents itself alone, and is the counterpart of suicidal desire. It generally results from moral causes of wretchedness. It occasions sleeplessness, emaciation, and a morbid state of all the bodily functions, and is able to verify its own predictions.

The Moral Insanity of Prichard is not a true monomania. The moral faculties form a group of powers, which are all more or less affected. Granting, therefore, that the intellectual faculties may be intact, the number of the moral functions affected takes the disease described by Prichard out of the category of monomania. Its diagnosis is of the utmost importance, and often of the utmost difficulty.

The following is the account given of this form of disease, by the learned author with whose name it is associated. "There are many individuals living at large, and not entirely separated from society, who are affected in a certain degree with this modification of insanity. They are reputed persons of a singular, wayward, and eccentric character. An attentive observer will often recognize something remarkable in their manners and habits, which may lead him to

entertain doubts as to their entire sanity, and circumstances are sometimes discovered on inquiry which add strength to this suspicion. In many instances, it has been found that an hereditary tendency to madness has existed in the family, or that several relatives of the person affected have labored under other diseases of the brain. The individual himself has been discovered to have suffered, in a former period of life, an attack of madness of a decided character. His temper and disposition are found to have undergone a change; to be not what they were previously to a certain time; he has become an altered man, and the difference has, perhaps, been noted from the period when he sustained some reverse of fortune, which deeply affected him, or the loss of some beloved relative. In other instances, an alteration in the character of the individual has ensued immediately on some severe shock which his bodily constitution has undergone. This has been either a disorder affecting the head, a slight attack of paralysis, or some febrile or inflammatory complaint, which has produced a perceptible change in the habitual state of his constitution. In some cases, the alteration in temper and habits has been gradual and imperceptible, and it seems only to have consisted in an exaltation and increase of peculiarities, which were all more or less natural and habitual."

It would appear from this, that perhaps the only diagnostic symptom between mere vicious propensities and moral insanity, is the mode of causation. Moral insanity is always preceded by an efficient cause of mental disease, and there has always been a notable change in the emotions and the propensities following, and apparently consequent upon the operation of this cause. Sometimes the moral effect of the cause is very limited. The Rev. D. Denman, in one of his excellent papers on the dependence of mental upon physical conditions, in the Psychological Journal, relates an instance of a gentleman whom he knew, and who received an accidental injury on the head. He soon afterwards displayed exalted pride, an emotion which was previously foreign to his character, but which thenceforth continued to the end of his life.

Such instances are far more rare than those in which the cause of mental disease has been followed by an alteration in several of the emotions, though it is open to doubt whether, in some of these instances, one emotion having intimate union with several others, has not been primarily affected. Excitement of irascibility or combativeness, for instance, will change the whole moral character of the

individual. All benevolent and kindly affections, all prudent regard for the feelings of others, all sense of duty and of justice, will disappear before the storms of habitual passion. In mere ill-regulated or exaggerated emotion and instinct, there has been no sudden change of character consequent upon fever, apoplexy, injury to the head, or other notable causes of disease; the power of desire and of unbridled propensities, has been of gradual growth, arising from frequent indulgence. It is a physiological condition contrasted with the pathological condition of moral insanity. Such a condition is exemplified in the first example quoted by Prichard from Pinel, in which "the only son of a weak and indulgent mother gave himself up, habitually, to the gratification of every caprice and passion of which an untutored and violent temper was susceptible: the impetuosity of his disposition increased with his years; when unmoved by passion, he possessed a perfectly sound judgment; he proved himself fully competent to the management of his estate, as well as the discharge of his relative duties." But "wounds, lawsuits, and pecuniary compensations, were the consequences of his unhappy propensity to quarrel, and an act of notoriety put an end to his career of violence; enraged with a woman who had used offensive language to him, he threw her into a well, and he was condemned to perpetual confinement in the Bicêtre." M. Pinel terms this affection "emportement maniaque sans délire;" but, notwithstanding that the case is quoted by Prichard, it must be admitted that it is defective in the marks which he has himself laid down as the characteristics of moral insanity. No cause for mental disease was shown to have existed, and no alteration in the temper and habits, which Prichard, in another place, insists upon as existing in *all cases* of moral insanity, had taken place; on the contrary, the case appears to present an unequivocal example of unbridled passion, the result of bad education and of vicious indulgence. This case bears a strong resemblance to that of William Dove, which has recently caused so much discussion. It may be, that emotions and propensities which have acquired strength, by constant indulgence, become at length as irresistible, when the moment of temptation arrives, as those which are the result of mental disease. This, however, is a question more for the moralist than for the physician. The rôle of the physician is, to point out to the magistrate that which is disease and that which is not. He is neither the legislator nor the administrator of the law. The law requires his opinion because it recognizes a difference between passion which

is the result of indulgence, and passion which is the result of disease. To the former it applies correction, because it might have been withstood, at least in some stages of its progress, and because its correction is needful to the welfare of society. Passion, the result of disease, it does not correct, because the patient who suffers from it could not have withstood its progress, and because its correction, in any other mode than by appropriate medical treatment, would be useless and cruel.

The principles laid down for the diagnosis of moral insanity are equally applicable to the special varieties of the disease, to homicidal insanity, to kleptomania, and oinomania. Pyromania appears to have been a needless refinement of classification applied to a particular mode of destructiveness. The Prussian Medical Council, which first established the variety by its dictum, has since repudiated its existence; and the term pyromania ought to be expunged from books, or remembered only as a passing absurdity of psychologists. The existence of *Homicidal Insanity* ought never to be admitted without the proof of other symptoms of mental disease than the perverted instinct itself, or at least without the existence of well-recognized or efficient causes of mental disease, and an obvious change in the temper and disposition consequent thereupon. The etiological proof, however, would scarcely be held sufficient, unless an overt act is committed, the circumstances whereof show the absence of criminal motive.

As a rule, in the absence of other symptoms of insanity, it will be well to insist that homicidal impulse only can be admitted, upon proof that an efficient cause of mental disease has been followed by a notable alteration of disposition and habits, and that the overt act has not been instigated by criminal motive. This latter point, however, admits of exceptions.

The diagnosis of *Kleptomania* is to be made on the same principles. The instances on record of the propensity to steal, exhibited by persons who had no temptation to appropriate the property of others, beyond the gratification of a disordered, or at least an ill-regulated mind, are scanty authority for the establishment of a pathological state. The physician, quoted by Prichard, who stole silver spoons and snuff-boxes from his patients, might possibly have been cured of his bad habit, had it exposed him to any serious inconvenience. Kleptomania is never urged as a defence for the delinquencies of the poor; but when ladies of respectable connection are de-

tected in habits of shoplifting, the theory of kleptomania has been found exceedingly convenient. In order to substantiate the existence of this form of insanity, previous disease affecting the brain, followed by change of disposition and habits, ought to be proved; and to verify the diagnosis, it would be satisfactory if it could be shown that the articles stolen were of no value to the thief, or at least that they were not appropriated to his or to her gratification. In his reminiscences of prison life, Mr. Chesterton gives a singular example of a wealthy shoplifter. She was an Irish lady, of ample fortune; on examining her clothing after apprehension, she was found to have only one under-garment; this was made of chamois leather, and was covered with pockets conveniently placed for the concealment of her booty. When in prison, under pretence of inspecting some papers, she sent for a box, from which she was observed to abstract a parcel, which proved, on examination, to contain cash to the amount of more than £2000. As she was a felon, this was forfeited to the crown. She was discharged from the prison on a rainy day, and to save a cab fare she requested permission to stay over night. The correctional discipline of Coldbathfields cured her of shoplifting, but, as the sequel proved, it had little influence on her love of money.

The diagnosis of *General Paralysis* is practically of the most facile sort, although it is not easy to describe in words the slight but pathognomonic changes which speak so forcibly to the practised eye and ear of the observer. The one diagnostic symptom of the early stages of paralysis, is the modification of articulation. This is neither stammering nor hesitation of speech. It more closely resembles the thickness of speech observable in a drunken man. It depends upon a loss of power over the co-ordinate action of the muscles of vocal articulation. In many instances, the speech of the early paralytic is fluent and clear, except in the pronunciation of certain words, or sequences of words, which require the neat and precise action of the muscles of speech. Words composed of vocal sounds connected by single consonants are articulated with correctness; but words composed of numerous consonants, with few vocalic sounds, are articulated in a shuffled manner, which is perfectly characteristic. The patient may even possess the power of articulating these words correctly, if he purposely attempts to do so; but if the examiner holds him in conversation for a few minutes, the ear will infallibly detect the slight but fatal symptom of incurable disease. Some little practice in the wards of an asylum is needful to the at-

tainment of readiness in the appreciation of a physical symptom of this kind, just as all the verbal descriptions ever given in books of stethoscopy are of little value, unless the ear is itself practised on the chest of the patient laboring under pulmonary or cardiac disease. There are many other symptoms of general paralysis, the existence of which perhaps adds certainty to the diagnosis, but the affection of speech is more than worth all the others. It is always present when the others are present, and without it no other symptom can be considered diagnostic. In speaking, the lips are tremulous, not unlike those of a person about to burst into passionate weeping. Protrusion of the tongue can only be effected with effort, and cannot be long continued; and, while protruded, the organ quivers. At a later period the brows droop, and the contraction of the iris under the stimulus of light is sometimes different in the two eyes. At a period of very variable duration after the affection of the voice is perceptible, the muscles of the limbs lose the exactitude of co-ordinate action. In walking, the patient stumbles along in a peculiar manner. He does not drag the toe after him, like a patient affected with hemiplegia; neither does he walk in the straggling and flat-footed manner, with high action, and as if his foot did not belong to him, like a sufferer from spinal paralysis. The mode of progression indicates the want of consentaneous action rather than want of power in the muscles. At a later period the muscles of the arms are affected, so that any delicate handicraft, or any muscular movement requiring nice and rapid action, like that of writing, or playing upon a musical instrument, is incapable of being performed. As the disease progresses, power over the sphincters is lost, and the patient becomes wretchedly filthy; and at last, even power over the muscles of purely excito-motory action becomes lost, and the patient is apt to become choked while taking his food, as it is generally believed, by a stoppage of a mass in the pharynx. We doubt, however, whether food in the pharynx alone would produce the sudden deaths to which paralytics are subjected while eating, unless the mass completely obstructed the opening of the larynx. A mass of food to be able to do this must be very large. We have in three instances carefully examined the position of the obstructing mass which had caused death, and found that in two instances there was no food in the pharynx, but that the fatal morsel was stuck fast in the box of the larynx; in one instance it was a crust of bread, in the other it was a piece of meat. In the third instance, a general paralytic, with

ravenous appetite, was being carefully fed with some soft pudding, by an attendant; an epileptic patient had a severe fall in a fit, and the attendant sprang to his assistance; the general paralytic crammed the pudding into his mouth, and was immediately choked. On examination, both the larynx and the pharynx were found to be filled with the soft mass of the pudding. It appears, therefore, that the cause of these fatal occurrences is the loss of the excito-motory function, which, in a healthy person, prevents the entrance of food into the larynx.

The form of mental disorder which accompanies general paralysis is frequently of diagnostic value. The emotions and propensities are less frequently involved than in other forms of mental disease. Cases, however, do occur, in which the propensity to theft and to indecency is inveterate; and we have known a man tried for felony, who was scarcely able to articulate his own name, from the ravages of this fatal disease. The rule, however, is as we have stated it. General paralytics are not usually found to entertain the unfounded aversions and suspicions so common during the incubation of mania. General paralytics are not malignant; and although sometimes furious, their passion is gusty and transient. The form of intellectual disorder, moreover, is frequently of a most remarkable kind: the patient fancies himself possessed of wealth and power illimitable, and is often fantastically imaginative. One man fancies himself the possessor of thousands of millions of sovereigns—of shiploads of gold and silver, and precious stones; another fancies himself greater than God; another says he can lift the world, and that all the children that are born in all parts thereof issue from his loins. This man also says that he is heavier than the world, and that all the men in the world cannot lift him. We invite him to lie down, and lift him with ease. He immediately explains the fact, that our success is owing to the buoyancy of the angels that are in him. When a patient exhibits this imaginative extravagance of idea, accompanied with slight emotional disturbance, any loss of clearness in vocal articulation will suffice for a positive diagnosis.

In some cases, however, there are terrific delusions, with emotional depression; and in others the mental symptoms are merely those of gradually increasing dementia. The diagnosis of this disorder is more certain in its earlier than in its middle and later stages. In the earlier stages there is no other disease for which it can be mistaken. In the majority of cases the symptoms are sufficiently dis-

tinctive in the latter stages also, but we have ere now experienced difficulty in distinguishing a case of advanced dementia with habitual hesitation of the voice from general paralysis. The absence of muscular tremors and debility in the lips and limbs, and the difference between mere vocal hesitation and the want of articulating power peculiar to general paralysis, decided the diagnosis. Cases also present themselves in which many of the symptoms of advanced paralysis are caused by double apoplexy; cases in which each side of the body is in the condition observable on one side in hemiplegia. When both sides of the body are paralysed, the sign of hemiplegia afforded by the unequal contraction of the symmetrical muscles is lost. On this principle, jockeys are said sometimes to disguise a horse's lameness by placing a stone between the shoe and the hoof of the sound foot. Lameness in both legs is less likely to attract notice than lameness in one. The physician is often introduced to such patients for the first time, when they have lost all power of conversation and of locomotion, when they are bedridden and silent, or able only to answer in monosyllables. In such instances, the diagnosis of the exact nature of the disease has, indeed, little practical value; but its difficulty and its scientific interest instigate the attempt to make it. In the year 1852 we published, in the Report of the Devon County Asylum, an account of some experiments we had made in the diagnosis of such cases, by means of the electric stimulus. The electro-galvanic apparatus was applied by us to the lower limbs of patients suffering from mental disease without paralysis, from dementia with ordinary paralysis, and from dementia with general paralysis. The result of our experiments proved, that in dementia without paralysis, and in dementia with ordinary paralysis, there is no loss of excito-motory sensibility, while in general paralysis there is a great loss of this power. In some cases the strongest stimulus of the electro-magnetic machine failed to produce any movement in the legs of the patient, beyond a slight tremor, not amounting to muscular contraction, and incapable of moving the limb in the slightest degree. This experiment may be more conveniently, but less effectually, tried by tickling the soles of the feet. In common paralysis muscular contraction is caused; in general paralysis it is not caused. These experiments establish a pathological rule of much importance in diagnosis,—that in paralysis having its seat in the brain, the excito-motory functions of the nerves is not lost; that in general paralysis, the

pathological conditions of which involve the whole nervous system, the excito-motory sensibility is almost abolished.

The Detection of Feigned Insanity is one of the most important points in the diagnosis of mental disease. When David was "sore afraid of Achish, King of Gath, he changed his behavior before them, and feigned himself mad in their hands, and scrabbled on the doors of the gate, and let his spittle fall down upon his beard. Then said Achish unto his servants, Lo, ye see the man is mad; wherefore, then, have ye brought him to me? Have I need of madmen, that ye have brought this *fellow* to play the madman in my presence? Shall this *fellow* come into my house?" From whence it appears, that not only did King Achish make a bad diagnosis, but that the prejudice against the insane is as old as the earliest records. Reverting to profane history, we find that Palamedes had more diagnostic acumen than the King of Gath. Ulysses feigned insanity to escape the Trojan war. He yoked a bull and a horse together, ploughed the sea-shore, and sowed salt instead of corn. Palamedes detected the deception by placing the infant son of the King of Ithaca in the line of the furrow, and observing the pretended lunatic turn the plough aside—an act of discretion which was considered a sufficient proof that his madness was not real. At the present day, one would scarcely pronounce that a man was feigning madness because he retained enough of intelligence to recognize, and avoid the destruction of his own son; but the signs of madness adopted by Ulysses resembled, in a remarkable manner, the conduct of feigning madmen as they exist, and which, to an experienced alienist, would at once suggest the idea of deception. The feigning madman, in all ages, has been apt to fall into the error of believing that conduct utterly outrageous and absurd is the peculiar characteristic of insanity. The absurd conduct of the real madman does not indicate a total subversion of the intelligence; it is not utterly at variance with the reasoning processes; but it is consistent either with certain delusive ideas, or with a certain perverted state of the emotions. In the great majority of cases, feigned insanity is detected by the part being overacted in outrageousness and absurdity of conduct, and by the neglect of those changes in the emotions and propensities, which form the more important part of real insanity. Sometimes mania is simulated: the man howls, raves, distorts his features and his postures, grovels on the ground, or rushes about his room and commits numberless acts of violence and destructiveness. If he has had the oppor-

tunity of observing a few cases of real insanity, and if he is a good mimic, he may succeed in inducing a person, who only watches him for a few minutes, to believe that he is in the presence of a case of acute mania; but if the case is watched for a few hours or days, the deception becomes apparent. No muscular endurance, and no tenacity of purpose, will enable a sane man to keep up the resemblance of acute mania; nature soon becomes exhausted, and the would-be patient rests, and at length sleeps. The constant agitation, accompanied by symptoms of febrile disturbance, by rapid pulse, foul tongue, dry and harsh or pallid clammy skin, and the long-continued sleeplessness of acute mania, cannot be successfully imitated. The state of the skin alone will frequently be enough to unmask the pretender. If this is found to be healthy in feeling, and sweating from the exertion of voluntary excitement and effort, it will afford good grounds for suspicion. If after this the patient is found to sleep soundly and composedly, there will be little doubt that the suspicion is correct.

Chronic mania may be imitated; and if this should be done by an accurate observer of its phenomena, who also happens to be an excellent mimic, it cannot be denied that the imitation may deceive the most skilful alienist. It is remarkable that two of the most perfect pictures of insanity presented to us in the plays of Shakspeare are instances of feigned madness; namely, the madness of Hamlet, assumed to escape the machinations of his uncle, and that of Edgar, in Lear, assumed to escape the persecutions of his brother. These consummate representations of the phenomena of insanity are so perfect, that in their perusal we are insensibly led to forget they are feigned. In both instances, however, the deception was practised by educated gentlemen; and on the authority of the great dramatic psychologist it may perhaps be accepted, that the phenomena of insanity may be feigned by a skilful actor like Hamlet so perfectly, that no flaw can be detected in the representation. Fortunately for the credit of psychologists, insanity is rarely feigned except by ignorant and vulgar persons, who are quite unable to construct and to act out a consistent system of disordered mind. It must be remembered, that all the features of every case of insanity form a consistent whole, which it requires as much intelligence to conceive and to represent, as it does to conceive and to represent any dramatic character. The idea which the vulgar have of madness is of quite a different kind. They believe it to be a monster, half man, half beast; the emotions

they represent unchanged and human, the intellectual functions they exhibit entirely perverted, grovelling, and bestial. They think that madness entirely alters the character of a man's perceptions, and utterly destroys his judgment, so that he not only ploughs the shore and sows salt for seed, but that he cannot recognize his own son, or avoid the destruction of his life. In more homely cases, it will be found, that men feigning insanity pretend that they cannot read or write, or count ten correctly, or tell the day of the week, or how many children they have; they answer every question wrongly, which any real lunatic, who could be made to understand the question and to answer it at all, would certainly answer right. In illustration of these facts, we subjoin the following case of simulated insanity, reported by Dr. Snell, in the *Allgemeine Zeitschrift für Psychiatrie*, December, 1855.

The widow Catherine R. had bought a house, the purchase of which she subsequently regretted. In order to upset the purchase, her children declared that she was insane, and the Court named three experts to examine into the truth of this allegation. We found her a woman already advanced in years, and partially blind, in consequence of cataract; her features were expressive of stupid listlessness; she looked straight at no one, but fixed her gaze on the ground; a certain restlessness was, however, to be observed. I wished her to read and write, but was told that she could do neither; I then made her count, and she counted thus: 1, 2, 4, 6, 7, 8, 10, 11, 13, 18, 19, 21. I asked her how many fingers she had on each hand; she answered, after some hesitation, four fingers. I let her count the fingers on her hand; she counted them, but skipt over the ring-finger, 1, 2, 4, 6. I asked her how many two and two were; she answered, after some thought, six. The following questions and answers then took place:

Q. How many children have you? *A.* I have, I believe, nine children. (She had really seven.)

Q. How long has your husband been dead? *A.* About ten years—(in reality only five years.)

Q. In what manner did he die? (he was suddenly killed by a fall from a wagon.) *A.* He lay sick more than eight days.

Q. Do you know this daughter of yours? (Catherine.) *A.* Yes.

Q. What is her name? *A.* Babetta.

Q. Have you other relations? *A.* I have a sister; she is called Barbara, and is married to a man called Prince; send to her, she comes no more to me. (This sister had been long dead.)

Q. What is the present year? *A.* I do not know.

Q. How long has Christmas passed? *A.* I do not know.

Q. Have you bought a house? *A.* No! I know nothing of it. I have a house —why should I buy a house? there were some people who wished to buy my house.

Q. Where do they live? *A.* I do not know.

Q. What is the Kloster Eberbach now used for? *A.* There are yet monks there. (There had been none there for fifty years.)

Q. Have you eaten to-day? *A.* I have not. (She had just eaten.)

Q. What did you eat last evening? *A.* Potatoes. (She had eaten soup.)

Q. In what month is hay harvested? *A.* I cannot remember.

Q. In what month is wine harvested? *A.* I believe in September.

Q. How has last year's wine turned out? *A.* It is right good. (It was very bad.)

Q. What is the name of the teacher to whose school you go? *A.* He is called Ohler. (In truth he was called Muschka.)

Q. Do you know the Ten Commandments? What is the first Commandment? *A.* I am the Lord thy God.

Q. What is the second Commandment? *A.* I am the Lord thy God.

Q. What is the third Commandment? *A.* I do not know.

Q. The fourth? *A.* I do not know.

Q. The fifth? *A.* Thou shalt *not* honor thy father and mother.

Decided by this examination, I and my colleagues declared the widow R. to be feigning. The witnesses for the widow were condemned for perjury; and she herself was sentenced to the House of Correction, for deception and seduction to perjury. I often saw her during the period of her imprisonment, and she had entirely given up her simulation.

Another very similar case is related in the *Zeitschrift für Psychiatrie*, upon which Dr. Snell remarks, that "patients suffering from real imbecility are well enough able to tell the number and the names of those who belong to them, and that they understand and answer questions on such matters in a very different manner to these simulators. Common people," he observes, "have not the slightest rational idea of insanity; they believe that all mental manifestations are completely altered in it, and that an insane person knows nothing; he ceases to read, to write, and to reckon; and that all his relations and conditions are completely reversed. Hence it happens, that all uninformed people find it difficult to acknowledge actual insanity. When they speak of an insane person, they say that he is not mad, that he knows every one about him, and that he altogether conducts himself like a reasonable man, only, that he shows some peculiarities. Uneducated people have the idea that an evil spirit, as it were, takes possession of an insane man, and drives out his being with altogether new and perverted elements. Where they observe memory, reflection, feeling of right and wrong, they think that insanity cannot exist; and yet among the insane, all these things are seldom altogether wanting, and often exist in a high degree. On this rock simulators generally shipwreck, if they attempt a part at all active. But it is more difficult to form a judgment if the simulator preserves a complete passiveness and an obstinate silence. It is not impossible that,

by these means, insanity may be simulated with success; yet, in order to do so, the simulator must possess a rare strength of will, in order, through all observations and tests, to preserve his rôle."

In the following case, the simulator was in his first attempt successful in deceiving ourselves and other medical men. W. Warren was a notorious thief, indicted at the Devonshire assizes, 18—, for felony; previous conviction having been proved against him, he was sentenced to transportation for fourteen years. Two days after his trial he all at once became apparently insane; he constantly made howling noises, was filthy in his habits, and destroyed his bedding and clothing; he was, however, suspected of malingering, and was detained in gaol three months. During a part of this time, it was found needful to keep him in a strait waistcoat. At length certificates of his insanity were forwarded to the Secretary of State, and he was ordered to be removed to the Devon County Asylum. On admission into this asylum, he was certainly very feeble, and in weak health. He had an oppressed and stupid expression of face; he answered no questions, but muttered constantly to himself; he retained the same position for hours, either in a standing or sitting posture; he was not dirty in his habits; he appeared to be suffering from acute dementia. In three weeks' time, he recovered bodily strength, and his mind became gradually clear. This change was too rapid not to suggest the idea of deception, but the previous symptoms of dementia had been so true to nature that we still thought the insanity might not have been feigned. For a period of eight months he was well conducted and industrious, and showed no symptoms of insanity. At the end of that time, he was returned to the gaol, to undergo his sentence; and, within one hour of his readmission within its portals, he was apparently affected with a relapse of his mental disease. From this time, for a period of two years, this indomitable man persisted in simulating mental disease. He refused to answer all questions; walking to and fro in his cell, he constantly muttered to himself, and sometimes made howling noises, which disturbed the quiet of the prison. Sometimes he refused his food for days together. He employed his time walking to and fro in his cell, muttering unintelligibly; or in beating at the door of his cell; or in turning his bedclothes over and over, as if looking for something. He had a very stupid expression of face, heightened by inflammation of the eyes from the lashes growing inwards. He slept soundly. For some months he was very filthy; this habit was cured by the governor of the prison ordering him to be put

into a hot bath,—hot enough to be painful, but not to scald; he jumped out of the bath with more energy than he had before shown, and thenceforth did not repeat his filthy practices. We visited him several times in prison, and expressed our positive opinion that his insanity was feigned. With the exception of uncleanly habits, he maintained all the symptoms of insanity which he had adopted for two whole years; his resolution then suddenly gave way, he acknowledged his deception, and requested Mr. Rose, the governor of the prison, to forward him as soon as might be to the government depôt for convicts. In this remarkable case, the perseverance of the simulator, his refusal to converse, or to answer questions, and the general truthfulness of his representation, made it most difficult to arrive at a decisive opinion. Still, the rapidity of his recovery, in the first instance, and the suddenness of his relapse, in the second, were inconsistent with the course of that form of insanity to which he presented so striking a resemblance. Our opinion, therefore, was formed upon a history of the case, and not upon any obvious inconsistency in the symptoms.

Whether the following case was, or was not one of simulation, cannot yet be known; the recapture of the convict may perhaps hereafter determine the question. John Jakes was convicted at the Devon Easter Sessions, 1855, of pocket-picking; previous convictions having been proved, he was sentenced to four years' penal servitude. On hearing the sentence, he fell down in the dock, as if in a fit of apoplexy; when removed to the gaol he was found to be hemiplegic, and apparently mindless. He, however, did some things which did not belong to dementia following apoplexy; for instance, he was designedly filthy, and even ate his own excrements. His insanity was certified by the surgeon of the gaol, and by a second medical man, and he was removed to the asylum. Notwithstanding the medical certificates of his insanity, the convicting magistrates, who knew his character as a burglar and criminal of great ability, thought that he was feigning. Warned by them, we examined the man carefully; he had all the symptoms of hemiplegia; the toe dragged in walking, the uncertain grasp of the hand, a slight drawing of the features, the tongue thrust to the paralysed side, all these symptoms were present in a manner so true to nature, that, if they were feigned, the representation was a consummate piece of acting, founded upon accurate observation. In the asylum, the patient was not dirty; he was tranquil, and apparently demented. He had to be

fed, to be dressed, to be undressed, and to be led from place to place; he could not be made to speak; he slept well. On the night of the 17th of August, 1856, he effected his escape from the asylum, in a manner that convinced the magistrates that their opinion of his simulation was just, and that he had succeeded in deceiving some four or five medical men. He converted the handle of a tin cup into a false key, wherewith he unlocked a window guard; through the window he escaped, by night, into the garden; from thence he clambered over a door, eight feet high, and afterwards over a wall of the same height. He got clear away, probably joined his old associates, and has never been heard of since.

It is hard to say which is the least improbable,—a representation of hemiplegia and dementia, so perfect as to deceive several medical men, forewarned against deception; or the escape of a really paralytic patient by the means described. It must be remembered that the patient was an accomplished housebreaker, and that things impossible to other lunatics might have been accomplished by him.

The earlier writers on insanity lay down excellent rules for the detection of feigned insanity; although some of them are of a nature which the humanity of the present age would forbid, and others require to be accepted with precaution. Sometimes the threat of severe modes of treatment, or even of punishment, has proved successful in discovering feigned disease. Zacchias relates that an able physician ordered, in the hearing of a suspected person, that he should be severely whipped, on the grounds that, if really insane, the whipping would produce an irritation on the external parts which would tend to alleviate the disease; and if not, he would not be able to stand so severe a test. The threat alone served to cure the pretended malady. Another instance was detected by Foderé, who ordered a red-hot iron to be applied between the shoulders of a woman who was accused of several highway robberies, and who feigned insanity with great skill. The patient at once discontinued her objectionable habits, and Foderé certified to her sanity. It must not, however, be forgotten that measures which may be either heroic treatment, or torture, might in some instances not be without their effect upon the really insane; but that any extra professional infliction of pain is, undoubtedly, beyond the province of the physician.

The operation of medicines, suitable to the treatment of the insane, is a more justifiable experiment for the detection of feigned insanity, and one likely to be more successful than the infliction of punishment.

An instructive example of this kind is given in Beck's Medical Jurisprudence, from the narrative of Prof. Monteggia. A criminal, denounced by his accomplices, became suddenly attacked with insanity; sometimes it seemed to be melancholy, then exhilarating insanity, and then dementia; he made no answers to questions except by single words, as book, priest, crown, crucifix. "In his presence, the physician stated that there were several peculiarities in the case, and among these, that he made noise during the night, and was quiet in the daytime; that he never sighed, and that he never fixed his eyes on any object. The drift of this conversation was, that the opposite of all these would induce them to suppose him insane; shortly after, in fact, he ceased making noise at night, and did everything which they had indicated." When Monteggia was ordered to visit him, he appeared demented; could not look at a person steadily; never spoke, but made a hissing noise at the sight of anything that pleased or displeased him; he was constantly in motion, and it was the opinion of his attendants that he scarcely ever slept. Monteggia ordered six grains of opium to be mixed in his soup, but without any effect. Some days after, this dose was repeated; but seeing, after six hours, no proofs of its operation, it was again repeated; notwithstanding this, he passed the night, and the next day awake. The next night he seemed disturbed, raised himself in bed, sighed profoundly, and exclaimed, "My God, I am dying!" His attendant, who had never heard his voice before, was extremely frightened, and sent immediately for Monteggia. The patient was tranquil, and speaking sensibly, without any appearance of insanity; he said he had no recollection of the past, but that he had heard persons say that poisoned soup had been given him. From this time he appeared cured. Monteggia seems to be of opinion that actual dementia had resulted from long feigning. May it not be that the powers of the opium were resisted by mental tension and voluntary effort? The case is certainly as anomalous as it is interesting.

There are few cases of feigned mania which need any resort to the pharmacopœia for the means of detection, the voluntary exertions of the feigning maniac generally resulting in exhaustion, and in sleep both natural and sound. A dose of opium may, however, sometimes expedite the discovery, if the means of patiently watching the movements of the suspected feigner are not available. In France, chloroform has recently been employed, for the purpose of discriminating between real and feigned insanity, it being supposed that, during the

intoxication produced by chloroform, a real madman will continue to rave on the subjects of his delusions; and that a person feigning madness will be overcome by its influence, and allow his imposition to be unveiled. We entertain doubts on both of these points. At least we have verified, by repeated experiments, that a real maniac under the influence of chloroform, administered to a degree short of producing coma, will sometimes, under its transitory influence, become reasonable and tranquil.

In the detection of feigned insanity, much stress has been laid by writers upon the suddenness of the attack, which, they say, distinguishes it from real insanity, whose invasion is gradual. This point of diagnosis must be accepted, however, with much caution. We have known real cases of mania manifest themselves with the utmost suddenness; we have known patients who went to bed apparently in good health, awake in a state of mania; we have known patients become suddenly maniacal, under the influence of exciting and denunciatory preaching, and during other conditions of intense temporary excitement. Doubtless, in all these cases the brain was previously prepared for the sudden explosion, but the symptoms of latent disease had not been of a nature to attract any observation; and, therefore, in a diagnostic point of view, the sudden outburst of real insanity must be accepted as possible.

The most important diagnostic point of feigned insanity is the want of coherence of the manifestations, not only with mental disease in general, but with the form or variety of insanity which is feigned in particular. Thus not only, as before stated, does the feigner overdo the intellectual perversions and absurdities, and the outrageous or irrational conduct of insanity, to the neglect of emotional disturbance; but he mixes the various forms of insanity together. Thus, in Monteggia's case, the patient vacillated between melancholia, exhilarating insanity, and complete dementia. In the case of William Warren, the symptoms, when he was first in prison, were those of mania; at the asylum, they were those of dementia; and, on his return to prison, they were those of mixed mania and dementia. In Jakes's case, the clever imitation of dementia following apoplexy was injured by the introduction of maniacal symptoms, such as the eating of his own ordure.

To deceive a skilful alienist, who takes pains patiently and fully to investigate the case, the simulator of insanity must, if he displays any active symptoms, not only have carefully observed the symptoms, but

be able himself to represent those symptoms, with powers of imitation which are possessed by few. How hard it is on the stage, and for a few minutes only, for a man to represent the manners of a sailor, a peasant, an old man, or any other characteristic manners, so that the deception shall be acknowledged complete! But the histrionic powers of a feigning maniac or melancholiac must be kept for days and weeks on the stretch, in the representation of manners and modes of thought far more difficult to imitate than those which are usually the subject of theatrical art. Dr. Rush is reported to have discriminated feigned from real insanity by the relative rapidity of the pulse; Dr. Knight and other writers have claimed the same power for the sense of smell. At the present day, the deposits in the urine would, we suppose, be appealed to. Much reliance, however, is not to be placed upon any one, or even upon several, of the physical signs of nervous disturbance. They have a scientific, but scarcely a diagnostic value. They may serve to direct the inquiries of the physician, or even to confirm his opinion founded upon other data; but, standing by themselves, they are of little importance in the diagnosis of insanity.

The Diagnosis of Concealed Insanity (*insania occulta*), is to be made on the general principles laid down in the previous pages. Some patients are to be met with, who converse and reason well on all subjects except those connected with some delusive opinion. One of the most remarkable instances on record is that of a man named Wood, who brought an action against Dr. Munro for false imprisonment, and underwent the most severe examination by the defendant's counsel without exposing his complaint. Dr. Battie suggested to the judge (Mansfield), to ask him what was become of the princess with whom he corresponded in cherry juice? and immediately a whole group of delusions became apparent. Wood indicted Dr. Munro a second time, for false imprisonment, in the city of London, "and such," said Lord Mansfield, "is the extraordinary subtlety and cunning of madmen, that when he was cross-examined on the trial in London, as he had successfully been before, in order to expose his madness, all the ingenuity of the bar, and all the authority of the court, could not make him say a single syllable upon that topic which had put an end to the indictment before, although he had still the same indelible impression upon his mind, as he had signified to those who were near him; but, conscious that his delusion had occasioned his defeat at Westminster, he obstinately persisted in holding it

back." This and other cases which might be quoted, refute Heinroth's assertion, that although patients can *conceal*, they never can *deny* their fixed ideas. Doubtless, in the majority of cases, Heinroth's opinion is correct; and people who, when sane, were not remarkable for veracity, who would not indeed scruple to utter any amount of falsehood whenever their interests seem to require it, overlook every advantage, and stand at no absurdity, or disgrace, when they have a delusive idea to maintain.

The first principle of interrogation, in ranging the mind for a delusive idea, is, to converse freely and naturally with the patient on the subject of all his relations, his relation to God, to his neighbor, including his wife, parents, his children, those in authority over him, and those over whom he may have authority; his relation to property, his indebtedness, or his fortune; his profession, his ambition, his desire of wealth or of rank; his bodily health, his studies, his amusements, his history. Heinroth proposes that the physician should narrate the patient's own history disguised as the history of the physician, in order that the patient may suppose a parallel between his own case and that of his examiner, so that the *dulce habere socium malorum* may elicit circumstances which he would otherwise have concealed (Wharton and Stillé). This roundabout proceeding would, we fear, in most cases, tend rather to excite the suspicions than to elicit the confidence of the patient; still, if the patient refuses to talk of himself, the physician has no option but to talk of himself, or of third persons, and by the expression of opinions likely to be challenged by the patient, thus to draw him into discussions which may eventually betray the morbid train of thought. If the patient is much below the social rank of the physician, assistance may be often obtained from persons of the patient's own position and modes of thought. A man whose ideas revolve in the narrow circle of a peasant's uncultivated mind, will often put himself into a mental posture of silent and sullen antagonism to all persons whom he considers above him, while he will expand and communicate freely to his equals and ordinary associates. Frequently it is found that the insane discover the delusions of the insane more rapidly than others can do.

If the patient can write, he should always be freely encouraged to do so. Insane patients, it is true, often write letters which bear no impress of their delusions. Men who constantly converse and act irrationally, will write letters on matters of business with good sense and precision. But the converse of this is sometimes observable;

and patients who, in conversation, adroitly conceal their delusions, display them with freedom in writing. We have, for many years, had a well-educated man under our care, who can never be brought to converse on his delusive ideas. When pressed, he adroitly turns the conversation, or he states his opinions in such a form that they could not be called delusive; that is, he not only conceals, but, to a certain extent, he denies his fixed ideas. Once a month, however, he presents us with a long and closely-written letter, in which his delusions of persecution, forced marriages, &c., are sufficiently apparent.

Another patient of ours, a barrister, so completely concealed and denied his delusions in conversation, that he succeeded in persuading his relatives, and especially his mother, a woman of rare intelligence and discrimination, into the belief of his perfect recovery from an attack of mania, and of his capacity to resume his professional labors. During the whole of this time he was writing letters to relatives living at a distance, full of delusion relating to his supposed marriage with a servant, to the distribution of a large fortune which he did not possess, and to a yacht voyage to every part of the globe.

The conduct of the patient should be observed by night as well as by day. We have, for several years, had under our care a respectable tradesman, whose conduct and conversation, during the day, exhibit scarcely a trace of mental disease. He is industrious, sensible, and kind-hearted; and it is strange that his nights of suffering have left no painful impression on his pleasing features. At night he sees spectres of demons and spirits, at which he raves aloud and prays with energetic fervor.

That it is important to test the memory and the capacity by examinations, repeated at various times, is shown by the case recorded by Sir H. Halford, in his Essays. A gentleman sent for a solicitor, gave instructions for his will, and told the solicitor that he would make him his heir; soon after this, he became deranged. After a month's violence, he was composed and comfortable, and manifested great anxiety to make his will. This request was evaded as long as possible, but at last consented to. The solicitor received the same instructions, drew it and it was signed by the physicians (Sir Henry Halford and Sir George Tuthill). After leaving the room, and conversing on the delicacy of their situation, the physicians returned to his room, and questioned him how he had left his property. He mentioned the legacies correctly; but when asked to whom the real estate was to go, he said, "To the heir-at-law, to be sure."

CHAPTER IX.

PATHOLOGY OF INSANITY.

The widely differing opinions which have been entertained by the ablest physicians respecting the pathology of insanity, clearly show that there is some difficulty at the bottom of the question, greater than that which has existed with regard to the nature of other classes of disease. The source of this difficulty is not hard to find. A rational pathology must ever be founded upon the basis of physiology. It is indeed a kind of physiology; it is an account of the abnormalities of organization and of function, which as much depend on the natural laws of our being as do those of health. Fair weather and foul equally depend upon the laws of meteorology. Health and disease equally depend upon the laws of animal life. The division of their study into the two departments of pathology and physiology is, therefore, perfectly arbitrary, and useful only for purposes of classification. But the knowledge of the laws of aberration cannot precede, or even be contemporaneous, with the knowledge of the normal laws of action. The highroad of health must be well known before the byways and devious paths which surround it can be investigated.

In all organs of the body, except the brain, great advances have been made in the knowledge of their physiological laws, and the amount of this knowledge bears a close relation to the obvious adaptation of each organ to the discharge of its function. The adaptation of the heart to the propulsion of the blood, the adaptation of the intestinal canal to the processes of digestion and nutrition, and of the lungs to those of respiration, are so obvious and so simple, that a positive knowledge of the laws of their action has been gained, and upon these a rational pathology of their disease has been founded.

But it is quite otherwise with the noble organ which lords it over the rest of the body. The mass of that which we call nerve-substance,

because nerve-function is found to inhere thereto, possesses no adaptation which we can trace to the ends to which the Creator has made it subservient. An agglomeration of delicate cells in intimate connection with minute tubes or filaments, which communicate impressions made upon the cells at one end, to those cells which lie at their other extremities; this is the nervous apparatus. Its *modus operandi* is, and probably always will be, utterly unknown to us. The knowledge that the different sets of nerve-tubes convey different impressions, is doubtless a fact of much practical importance, but it is far removed from any intimate knowledge of the laws of nerve-force. To claim for these minor details of the nerve-office the dignity of satisfactory physiological knowledge, would be as absurd, as to claim the knowledge of an engine or machine, because we saw how the far off wheels acted upon each other, while of the engine itself we knew not whether its motive force was steam, wind, water-power, galvanism, or any other source of movement. But although the connection between nerve-function and nerve-organization is a mystery which remains veiled from our most anxious scrutiny, still we are acquainted with many of the conditions which this connection requires, and without which it is discontinued. We know that if that dominant nerve-mass, the brain, is not supplied with a due amount of plasma from the blood; or if plasma is supplied to it containing noxious substances, such as urea, or narcotics; or if it is subject to pressure, or if it is over-stimulated and deprived of due repose, its functions are interrupted or perverted. In default, therefore, of real knowledge respecting the conditions of nerve-function, we must be satisfied with the recognition of the fact, that the great organ of this function is subjected to the general laws of decay and reparation of animal tissues, and to some other laws having special reference to its own degeneration and repair. It is upon this physiological basis only that, in default of more precise and extensive knowledge of the changes in the nerve-cell and the generation of nerve-force, cerebral pathology can be established. *The physiological principle upon which we have to build a system of cerebral pathology is, that mental health is dependent upon the due nutrition, stimulation, and repose of the brain; that is, upon the conditions of the exhaustion and reparation of its nerve-substance being maintained in a healthy and regular state; and that mental disease results from the interruption or disturbance of these conditions.*

If we are certain of any one fact in the physiology of the nervous

system, it is, that nerve-force is generated in or by the vesicular neurine, and that the tubular neurine conducts it. But, what is the nerve-force of the human brain? and what is the activity of its vesicular neurine? Its purpose is, the perception of sensations of all kinds; the power of comparing these sensations, and of storing the results of their comparison; the power of combining those sensations in new arrangements, of imagining,—not, indeed, new sensations,—but new combinations of them; the power of feeling emotions and propensities.

The activity of the vesicular neurine of the brain is the occasion of all these capabilities. The little cells are the agents of all that is called mind, of all our sensations, thoughts, and desires; and the growth and renovation of these cells are the most ultimate conditions of mind with which we are acquainted. There may be more profound conditions, but they are beyond our ken, and so far as we know, there is no better sanction for their existence than the fantastic alliance of spurious physiology and Kantian metaphysics.

How any combination of cells can be attended by processes of thought is, to us inconceivable; but it is not more inconceivable than that similar combinations should result in the phenomena of life, or that a combination of atoms should result in the movements of the solar system. All we can say is, that the cerebral cell and gravitating atom are creatures of the Almighty Creator, acting in obedience to laws impressed upon them by His fiat, laws whose phenomena we can trace, but whose ultimate nature we cannot understand.

The ultimate condition of mind with which we are acquainted being the due nutrition of the brain-cell, it is of the utmost importance to have a clear idea of the manner in which this is effected. The gray substance of the human brain contains millions of vesicles, lying in a semi-fluid granulated substance (stroma), and bound together by a minute network of capillary bloodvessels and fine areolar tissue. Now, the fundamental truth of physiology being the activity of the cell, and this activity being accompanied by its decay, and demanding its renovation; the markworthy points in the relative position of the brain-cell are,—First, its proximity to the nerve-tube, from which and to which it conveys impressions, the taking or the giving of which is the cause of its exhaustion; Secondly, its proximity to the blood capillary, which exudes a plasma in which the cell is bathed and renovated, and from which new cells are formed to replace those (if such there be) which are finally exhausted.

With regard to the first of these relations, so far as the individual

cell is concerned, it would appear, that injurious results could only arise from stimulation so excessive as to hasten the progress of decay beyond the powers of reparation. With regard to the second relation, a crowd of circumstances may occur, to interrupt or prevent the growth or reparation of the cell. All states, either physiological or pathological, of the cerebral cell, are derived from influences impressed upon it, either by the nerves or the bloodvessels, with which it stands in such intimate relation. Whether any changes can be self-originated, is more than doubtful. The laws of its life, transmitted to the cell from the parent organism, include, indeed, the conditions of perpetual change, but the cause of change must ever be sought for in the nerve or the capillary.

It was once the custom to regard diseases as distinct entities, which were capable of being expelled from the body by the art of the physician. To this period succeeded one, in which every disease was viewed as a single pathological action. Mental diseases were once thought to be occasioned by evil spirits, which could be exorcised; and by many persons, even at the present time, they have been attributed to diseases of the "spiritual essence," and to other conditions referrible to the mysteries of ontology. An error more recent, and which even now prevails widely, is to refer insanity to some one or other of the pathological conditions whose appellations are in the mouths of all men, but whose nature and relations are appreciated by few. Thus, some attribute insanity to irritation, others to exhaustion, others to inflammatory action; and these absurdly narrow views are even entertained by medical men who would be quite incapable of attributing all diseases of the stomach or the lungs to one pathological state. What would be thought of a physician who, at the present day, should deliberately argue, that all diseases to which the lungs are subject are inflammatory; or, that all dyspepsias are the single result of irritation or nervous exhaustion? Yet, the prevailing method in which mental diseases are treated by physicians, who are too enlightened to submit their intelligence to the theories of spiritual essences, and other exploded absurdities, are of this kind. One able physician attributes all insanity to nervous exhaustibility, while another refers it to congestion and the earlier processes of inflammation, and a third to irritation.

The broad view of its production appears to be this: *the brain, like every other organ of the body, for the perfect performance of its functions, requires the perfect condition of its organization, and*

its freedom from all pathological states whatever. Consequently, the existence of any pathological state in the organ of the mind will interrupt the functions of that organ, and produce a greater or less amount of disease of mind—that is, of insanity.

Such is the foundation of the pathology of insanity which we maintain, the particulars of which will be elucidated hereafter. At present, some space must be occupied in the definition of terms and preliminary explanation of views. And first, when we speak of the brain as the organ of the mind, we mean that portion of the cerebral mass which physiological experiment and observation upon the dead amply prove to be the seat of mental function. We do not include in the term those portions of the brain lying at its base, which are acknowledged to be but a prolongation and development of the excito-motory and spinal nervous apparatus. In our opinion, Professor Carpenter has given us ample reasons for the belief, that the thalami and corpora striata are subservient to the conversion of sensational impressions and volitions into combined movements adapted to the preservation and welfare of the individual, without the intervention of judgment, or the proper functions of mind. The experiments of Fleurens and others also prove that the cerebellum is subservient to the co-ordination of muscular action. Experiment and observation, in our opinion, prove, beyond doubt, that the seat not only of the intellectual, but also of the instinctive functions of the brain, is in the convolutions of the cerebrum proper, and that the cerebellum and the central masses of gray matter are subservient to motion alone, excited either by the decrees of the will, or by impressions upon the nerves of sensation, or upon those of excito-motory action. It is also sufficiently proved that the medullary substance of the brain, forming so large a portion of its mass, is merely a conducting medium. Pathological conditions may exist in this white substance, in the cerebellum, the corpora striata, and thalami, without affecting the mental functions. Sensation and motion will be affected; but judgment, memory, and emotion may be left intact. It is true that diseased conditions which affect the mind, also frequently, nay, commonly, affect the lower functions of the nervous system. The state of the muscular system has ever been called "the pulse of insanity;" but the state of these functions in insanity does not commonly amount to that degree of aberration from natural functions which we should be justified in calling disease, if it existed in itself. The muscular activity is frequently excited or depressed, but only in exceptional

cases is it perverted and irregular. Moreover, in a great number of instances of chronic insanity, the motorial function is in nowise affected. Diseased action, therefore, may be strictly limited to that portion of the brain in which the mental functions are enthroned, and which, by the process of exhaustive reasoning, is shown to be the gray matter of the convolutions.

On the other hand, disease may affect and be limited to those portions of the cerebral mass which either conduct impressions to or from the seat of mind, or which subserve to the function of muscular activity. In this manner, cerebral paralysis of various kinds may occur without mental disease. Circumscribed effusion of the blood in the white substance of the brain often produces loss of mental function when it first takes place, from the pressure which it exerts on the gray matter of the convolutions. But when the mischief occasioned by this pressure has been removed by the adaptation of the blood in the cerebral vessels to the contents and capacity of the cranium, the powers of mind return, while those of motion remain injured until the integrity of the torn substance is restored. Lesions, or pathological conditions of the conductive or motive parts of the brain, frequently propagate themselves to the seat of the mental functions; and active pathological states of the latter seldom exist without implicating, to a greater or less degree, the integrity of the former. They are parts of the same organ, essentially different indeed, in function, but so intimately connected that pathological conditions readily extend themselves from one to the other, both by continuity and by sympathy. All these points of difficulty being admitted, the important fact remains, that *diseased conditions which affect the mental functions must have their seat in the gray matter of the cerebral convolutions;* and in speaking of disease of the brain in relation to insanity, we desire, therefore, to be understood as speaking of the cerebral convolutions alone, unless where the contrary is expressed.

We shall take the present opportunity to state with distinctness our views of the nature of pathological conditions, not only in the brain, but in all the organs of the body. Diseases have commonly been distinguished into those which are organic, and those which are functional. At first this distinction arose from the fact, that in some instances diseased organs presented obvious and palpable changes of structure, while in other instances they presented no such changes. Diseases which our forefathers called functional, because the rough examinations with which they were content made them acquainted

with no changes of structure, have been made known to us, by the aid of the microscope, as strictly structural diseases. For example, fatty degeneration of the heart and epithelial desquamation of the uriniferous ducts are structural diseases to us; a short time ago their phenomena were regarded as functional. Facts of this kind would of themselves be sufficient to create distrust in the theory of functional disease; but many accomplished physicians still maintain that abnormal vital phenomena may be, and are likely to be, occasioned by dynamic aberrations alone; and that such phenomena are correctly designated as functional disease. We cannot concur in this opinion; and we perfectly agree in the justice of the observation made by the great German chemist, that "Everything is specific which we cannot explain; and dynamic is the explanation of all which we do not understand; the terms having been invented merely for the purpose of concealing ignorance by the application of learned epithets."—(*Liebig's Chemistry of Agriculture.*)

What is called force of every description is connected with, if not dependent on, changes in the atoms of matter. Force is the hypothetic agent which underlies the phenomena of material change; and to affirm that dynamic modifications of vital functions may exist without alterations of material organization, is to ignore the fundamental principles of philosophic physiology. All disease, therefore, in our opinion, is organic. Not only is this so with diseases which come under the common observation of the physician, without leaving traces of organic change—asthma, for instance, and angina, and epilepsy—but mental and nervous diseases also, of every kind and form. Not a thrill of sensation can occur, not a flashing thought or a passing feeling can take place, without changes in the living organism; much less can diseased sensation, thought, or feeling occur, without such changes; changes which we are not able to detect, and which we may never be able to demonstrate, but which we are, nevertheless, certain of. For whether we adopt the theory that the states and things which we call heat, electricity, vitality, &c., are distinct entities, or what is called imponderable matter; or the far more probable theory, that they are only phenomena belonging to ordinary ponderable matter; an atom or a cell charged with electricity or heat, or in a state of chemical activity, is essentially in a different condition to a cell or an atom in chemical or electrical equilibrium with surrounding substances. On the lowest view of organic action, therefore, alterations of what are called dynamic force cannot exist, with-

out corresponding changes in material condition. If it is possible to suppose that the cells of a living structure, in a state of disease, can only differ from the cells of the same structure in a state of health, by an alteration in their electric states; this will in itself constitute a material difference, capable of being readjusted by appropriate remedies. But there is no ground whatever for supposing that vital force and electrical force are the same, or that anomalous action of living bodies ever depends upon the mere distribution or activity of such force. The only force capable of explaining any of the phenomena of life, is the chemical one, and this only in a state of constant activity and interminable change. In a state of health, such change takes place within a range whose limits permit beneficial and restrict injurious action; in a state of disease, the range of chemical change is widened or contracted, so that mischief results from excess of action, or the well-being of the organism is lost by deficient action. In either case, the chemical composition of the cells cannot fail to be altered from the standard of health; and alteration of chemical composition is the real groundwork of organic disease, since it invariably interrupts the healthy function of the part affected. Those abnormal states, which depend upon an altered condition of the blood, are not less strictly organic than all other diseases; for not only can no change take place in the composition of the blood, without in some degree affecting all the parts which are nourished thereby, but this fluid is, strictly speaking, itself a living cellular organism, and every change which takes place therein is organic.

It may seem superfluous that, after having expressed our opinion that the noblest functions of the healthy nervous system are invariably accompanied by organic changes therein, we should argue that such changes must exist when the functions are performed abnormally. It is true that the greater proposition, that function is always accompanied by organic change, includes the lesser proposition, that diseased function is so accompanied; but the latter has a difficulty to contend with, from which the former proposition is free,—it has to oppose and subvert a long-established erroneous theory.

Nosological arrangements and classifications are, to a great extent, natural, but they are influenced by the arbitrary laws of custom and convenience. It is thus that the class of diseases grouped under the general term of insanity, has been framed to exclude the delirium of fever, of cerebritis, and other diseases of an acute form. A strictly natural nosology would, doubtless, include under the term, all dis-

eases of the cerebrum proper accompanied by aberrations in the mental functions; but inasmuch as such aberrations are a frequent concomitant of a large proportion of cerebral diseases to which man is subject, it becomes necessary to restrict the term insanity to those forms of disease in which alterations of the mental functions are not only a constant but a prominent symptom. While, however, the convenience of this restriction is acknowledged, it would, in an investigation of the pathology of insanity, be most unwise to overlook those occasions of mental disturbance which take place in the course of other diseases. We often go abroad to gain accurate information and opinions on that which is taking place at home; and the special student of insanity will do well to study the causes of delirious thought and perverted feeling, in all classes of bodily disorder where they are observable. If he studies insanity alone, he will be apt to fall into the common error of attributing its causation to some single pathological state, and his views will be as wrong as they are narrow. But if he studies perverted feeling as occasioned by gouty or hepatic disease, or loss of intellectual power and fatal coma occasioned by suppression of the urine and the delirium of fevers, he will be led to appreciate the full extent of blood change in the production of purely mental affections. In the delirium of cerebritis, he will see a form of insanity undoubtedly produced by inflammation; and in delirium tremens he will see another form of insanity, as undoubtedly produced by nervous exhaustion. He will thus be enabled to reject exclusive theories of insanity, and be prepared to admit the truth of the broad principle,—that insanity may be occasioned by any and every pathological state which is capable of taking place within the substance of the brain.

The pathological changes which are capable of taking place therein, are to be learned from a study of the symptoms of mental disease, from the effects of remedies, and from the post-mortem appearances. Some preliminary foundation for this study may be provided by a consideration of the influences to which the organ of mind is obnoxious, tending to interrupt or defeat its functions. Sane mind being the result of the normal and physiological action of the brain, unsound mind is the inevitable consequence of its abnormal or pathological action. To what pathological actions, then, is it liable? As an organ abundantly supplied with bloodvessels, it is obviously liable to all abnormal conditions, which irregularities in the quality or quantity of the blood, and the relation thereof to its tissue, can occa-

sion; it is liable to anæmia and to hyperæmia both passive and active, and to the latter accompanied by organizable and unorganizable exudates. It is also more readily acted upon by various chemical changes in the blood than any other organ. Excess of carbon or defect of oxygen tells first upon it; and many substances in the blood which affect other organs little, or not at all, affect this noblest of the organs with intense force. All diseases, therefore, which depend upon the movement or quantity of the blood, and many of those which depend upon its quality, are the fruitful source of abnormal cerebral conditions. There are, it is true, many blood-poisons and diseases which do not affect the brain. Thus, it is strange that although the gout-poison affects the temper strongly, and often endangers the intellect, that of rheumatism has no effect thereon. Tuberculosis, moreover, while attacking every other organ of the body, very rarely affects the adult cerebrum. But the brain is liable to a species of disturbance, apparently quite unconnected with the quality, quantity, or movement of the blood, a species of disturbance to which other organs are liable only in a modified and unimportant degree. We allude to the disturbance caused by sympathy with injuries of, or noxious influences applied to, peripheral portions of the nervous system. Moreover, the brain is liable to conditions of exhaustion to a far greater extent than any other organ. Other organs, when overtasked in the performance of their functions, either refuse to discharge them, or gradually gain such increase of power, that they are at last enabled to accomplish the task imposed. Overtasking the stomach destroys appetite, and the task is no longer imposed. Overworking the muscular system does not break down that system itself, but the nervous system, with which it is so nearly connected; or if the overwork is within the limits of health, the muscles gradually develop by exercise, and eventually overcome the difficulty. The overtasked lungs throw part of their burden upon the vicarious action of the liver, and the overtasked liver is relieved by the kidneys. But the overwrought brain finds no helpmate in the economy of the organism; it must bear its burden alone, and suffer or succumb according to the disproportion between its task and its energies. Exertion of the brain, if kept within due limits, is followed by a state of repose peculiar to itself; but, carried beyond these limits, the excitement of its functions, while it produces rapid exhaustion of power, also renders the organ incapable of such repose and renovation. Overwork produces exhaustion accompanied by excitement, which

continues the overwork and accelerates the exhaustion. Thus the degeneration of tissue goes on in the organ in a ratio of rapid increase, and organic decay is occasioned,—sometimes quickly fatal, but more frequently resulting in permanent atrophy of the organ, with perversion and degradation of its functions.

Having premised thus much upon the generalities of the pathology of insanity, it will now be my endeavor to discriminate the particular lesions under which the brain suffers, as they are made known to us, either by observations on the dead body, or by a rational estimate of the cause of those conditions. Thus, for instance, the observation of the dead body sufficiently proves that loss of mental function is in most cases dependent upon atrophy of its organ; but the loss of function which has been consequent upon the ingestion of some deleterious substance, frequently leaves no traces in the organ which are appreciable to our senses. Now, to us it is not less an ultimate fact, that certain poisons interrupt the functions of certain organs, than that atrophied organs cannot discharge their functions with vigor; and, hence, the rational estimate of circumstances which have taken place during life, is not less important in the investigation of pathological lesions than post-mortem observations. The admirable precision which microscopic observation and chemical analysis have of late years acquired, has tended greatly to distract the attention of physicians from the importance of rational pathology. Nowadays, all lesions which cannot be calculated in test-tubes, or demonstrated under object-glasses, are apt to go for nothing; but this kind of pathology has hitherto done little towards the elucidation of mental disease. The reason of this appears to be as follows: the pathological conditions of insanity almost always involve the whole of the cerebral hemispheres. It is a matter of the rarest occurrence to observe part only of a hemisphere to be affected with atrophy, that sure indication of pathological change; and when opportunity is afforded to observe the state of the brain, in the earlier stages of insanity, it is equally rare that partial congestions are observable. Now, a general condition of the cerebral convolutions capable of producing an amount of structural change, distinguishable under the object-glass of the microscope, would scarcely be consistent with a continuance of life. Changes in brain-substance are frequently such as to be readily detected with the aid of the microscope. Purulent and fibrous exudates, broken up cell-structure, and fatty degeneration, are not less readily demonstrable in the brain than in other organs.

But if they have existed, in connection with that amount of chronicity of disease which is essential to insanity, they must have been of small extent, and have affected the functions of the remainder of the brain by contiguous sympathy. Pathological changes of a character demonstrable by the microscope, affecting the whole or a part of its convolutions, are inconsistent with the continuance of life for more than a few days. It is this fact which has raised a nosological barrier between inflammations of the brain and the different forms of insanity; and it is only by a just appreciation of this circumstance that we can console ourselves for the want of that assistance to the sense of vision, which has so much advanced the knowledge of structural change in so many other classes of disease. It might, perhaps, be expected, that, if the microscope could not demonstrate the earlier changes of structure in insanity, it might at least make us acquainted with the chronic results of these changes. The functions of a brain extensively atrophied are scarcely less annihilated by structural change, than those of a cirrhose liver or a fatty kidney. Moreover the obviously wasted and shrunken appearance of the organ itself places beyond doubt the existence of profound structural change. Yet, hitherto, neither microscopists nor chemists have been able to demonstrate wherein this change exists. The records of pathological societies abound in microscopic observations upon fibrous and cholesteric tumors of the brain, and such like local abnormalities, but they have as yet thrown no ray of light upon the general changes which are as common as they are important.

That the disease commonly known as insanity does not result from inflammation of the brain, must be accepted only as a nosological but not as a real truth, since cerebritis and meningo-cerebritis are undoubtedly accompanied by great disturbance of the cerebral functions so long as they last. But many authors have asserted that mental disease, going on from week to week and month to month, is occasioned by inflammatory action of a certain kind in the brain-substance. Broussais, who was the great advocate for this theory, was compelled by the absence of inflammatory products in the brains of persons dying insane, to acknowledge that this action was of a *sub*-inflammatory nature. Guislain, however, says, that in some rare cases he has observed the arachnoid to be actively inflamed, presenting the appearance of the inflamed conjunctiva; and some recent English writers on the same subject have expressed their conviction, that such appearances might be observed if the brain were examined imme-

diately after death, believing that the injected membranes become pale by post-mortem change. We have never observed any appearances, either in the meninges or the convolutions of a person dying insane, which we could attribute to the existence of recent acute inflammation. We have, however, in numerous instances observed unequivocal marks of inflammation not of a recent date.

Moreover, the history of the causation of many cases of insanity leads to the conviction, that although inflammation may not be the actual condition of insanity, it is not unfrequently its cause. In such instances the course of events is as follows: A man receives a blow on the head, or some other cause of inflammatory action. In a recent case, which has been under our care, the cause was a stroke of lightning. Immediately after the injury, pain and febrile excitement indicate the existence of inflammatory action. If this inflammation were to extend, the patient's life would be in the utmost danger. But in the instances under consideration, either the slightness of the injury, or rest and a little depletion, localizes the inflammation, and its symptoms soon disappear. After the lapse of a period which varies from ten days to three or four weeks, the patient again becomes sleepless, irritable, suspicious, and fretful, easily excited to anger, always in motion; and soon delusions appear, and an acute attack of insanity declares itself. Such cases are not unfrequently fatal; they are accompanied by great violence and long-continued insomnolence, and are apt to terminate in an exhaustion of the powers of life, expressed by the sudden or gradual failure of the heart's action. On examination after death, appearances of local inflammation in the meninges and convolutions are observable. We cannot think that the symptoms of insanity are in such cases occasioned by the inflammation. It is most probable that the inflammation is not the condition of insanity, but is the exciting cause of a secondary pathological state upon which the symptoms of insanity immediately depend; just as the symptoms of abscess in the liver may be caused, but not conditioned, by ulcerations in the intestines. What the actual state of an organ is, whose functions are disturbed by the presence of inflammatory action of a small portion thereof, it is not easy to determine. In the loose employment of terms, which continues to be one of the greatest obstacles to the advancement of exact medical knowledge, the condition of such an organ would be confidently stated to be one of irritation. But irritation properly defines a cause, and not a state. Irritability is a state of organic structures rendering

them liable to be acted upon by irritating causes, that is, by irritation; and passing, when so acted upon, into a second state, that of excitement. When the cause of organic excitement is normal, and the organism is sound, the phenomena are regular, and bear a certain definite, or, so to say, symmetrical proportion to each other. But when the causes of excitement are abnormal, its phenomena are irregular and disproportioned. The excitement of an irritable nervous system, occasioned by a wound or other lesion, manifests itself in spasmodic action of various kinds; while healthy excitement, occasioned by the natural stimuli, results in a regular activity of the muscular and other organs of the body. Now the presence of a small portion of brain, recently inflamed, acts as an irritant upon the remainder of the organ, producing therein abnormal excitement, which manifests itself in an irregular and disproportionate activity of its functions, that is, in symptoms of insanity.

Such is our view of the influence of true inflammation in the production of mental disease. We must, however, guard ourselves from being understood to offer the term "irregular excitement of the cerebral functions," as anything more than a verbal formula for the expression of a series of phenomena with several links of which we are little or not at all acquainted. A small ulcer in the mucous membrane of the stomach, sometimes deranges all the functions of the viscus; a blow on the head causes vomiting; in either instance we know not how; but we refer the fact to others of a similar nature, tabulated under the terms of sympathy or irritation; that is, we provisionally formulate our knowledge. In doing so, we act in accordance with unexceptionable methods of philosophizing, if we fully and constantly estimate verbal formulas for what they are, and do not permit ourselves to recognize in them the undiscovered truths which they provisionally represent. It is probable that the state of brain occasioned by the irritation of an inflamed portion, is that of active, but unequal congestion. This probability arises from the well-known fact observable in those parts of the body which present themselves to the sight (a hand or an eye for instance), that inflammation of a small portion is accompanied by active congestion of the remainder. The inflamed part disturbs, in some way or other, the normal balance between the contraction of the capillaries and the pressure of the blood. It has been hypothetically assumed that the manner in which this is effected is by the abstraction of the nerve-power of the capillaries; or, to speak with a less amount of hypothetic guessing, and

to omit the influence of unascertained *power*, it will be sufficient to say, that every local inflammation not only destroys for a time the contractility of the capillaries in the part affected, but that it also greatly diminishes their contractility in surrounding tissues. And this brings us to the consideration of the influence of congestion of the brain as a cause and condition of insanity; general inflammation being neither—first, because the undoubted appearances of general inflammation are never observed in persons dying insane; and, secondly, because the consequences of general cerebral inflammation are inconsistent with the phenomena of a chronic disease. Such a state, if not speedily removed by active measures, is fatal in a few hours or days. But it is otherwise with general congestion of the cerebral convolutions; this condition is consistent with the phenomena of a chronic disease, and it is actually and frequently observable in the bodies of persons dying insane. The consideration, therefore, of its causation, its nature, and phenomena, is of the highest importance. We shall not attempt to divide congestion of the meninges from that of the convolutions themselves; for although their congestion may sometimes be very obvious, while that of the convolutions is very doubtful, the intimate connection of that membrane, which in mental diseases is most worthy of consideration, that is, of the pia-mater, is of so close and intimate a nature with the convolutions, that it is plainly impossible for it to be congested without a corresponding condition existing in the capillaries of the gray matter of the convolutions.

Preliminary to the consideration of cerebral congestion as a state of disease, it will be worth while to review the states of congestion which do not actually partake of that character. Systematic writers have distinguished various states of the capillaries, in which they contain more blood than natural, under the terms of determination of blood, plethora, active and passive congestion or hyperæmia, &c. These all appear to be varieties of the same condition, namely, enlargement of the capillaries, with retarded but not obstructed motions of blood through them; and the slighter degrees of this condition are consistent with, and, indeed, are dependent upon, the healthy activity of the organs. Dr. Watson says, "Local plethora may be predicated of a part which contains more than its share of blood." The mucous membrane of the stomach contains more than its share of blood, during the process of digestion, and is therefore plethoric. If the organ is weak, and if the stimulus of food is applied too fre-

quently to it, the transient condition of healthy plethora passes into that of morbid congestion, and pain, spasm, and morbid symptoms result. The exact counterpart of this takes place in the brain; the changes which result from the active exercise of its functions attract to its capillaries a greater share of blood, and constitute a transient and healthy state of local plethora. But, if the brain is weakly organized, and if the stimulus of the work is continued beyond due limits, the state of plethora is prolonged and augmented, and the first symptoms of morbid congestion display themselves. There are few students who are not practically conversant with the slighter symptoms of cerebral congestion. Absorbed in some intellectual pursuit, the student's head becomes hot and painful, and his brain even feels too large for his skull. With exhausted powers of thought and attention, he retires at a late hour, as he hopes, to rest, but he finds that he cannot sleep; or if he does sleep, his repose is unrefreshing, and disturbed by dreams. An hour's freedom from thought, before retiring to bed, would have enabled the partly congested brain to recover itself, and this would have been aided by taking a glass or two of wine, which would have tended to relieve the distended capillaries, by utilizing the remainder of the nervous force. It was long ago pointed out by Dr. Billing, that an alcoholic stimulant taken at bed-time by a man with an exhausted and one with an unexhausted nervous system, will produce contrary effects: it helps to relieve the congestion of an exhausted brain; in the unexhausted brain, on the other hand, it tends to produce congestion, feverishness, and sleeplessness; just as diluted tincture of capsicum relieves the congestion of a frog's foot, but applied to the capillaries in their normal state, it causes them to congest.

The condition of the cerebral capillaries during sleep is unknown to us. They are not, at least, in that state of active congestion which is the physiological condition of the capillaries of organs in a state of high functional excitement. We have elsewhere propounded and supported the theory, that the brain-cells derive nutritive renovation from the blood, principally or entirely during sleep. It would seem probable that in the physiological state, the brain is liable to determination of blood from two causes, or rather for two purposes; during waking, for the purposes of functional activity; and during sleep, for the purposes of nutritive repair. Be this as it may, there are symptoms which indicate the existence of a congestive state of brain after sleep. If its duration has only been sufficiently long to

repair the exhausted energies of the organ, and if the individual be in a state of sound health, the symptoms of congestion on waking are often imperceptible. But in heavy sleepers, and after sleep prolonged beyond the necessities of the body, the period of waking presents some curious phenomena of congestion. During this state, dreams are common, and the individual is conscious that he is dreaming. Hallucinations present themselves to the senses of sight and hearing, which the half dreamer recognizes as such. There is, moreover, a sense of weight, tension, and throbbing in the head, which is not always got rid of until some time after waking is complete. This state has been referred to by the alienists of France, as presenting a very close resemblance to the mental phenomena of insanity. It wants, however, the element of emotional disturbance, for dreams of this kind are mostly sensorial. Doubtless, this and all other states in which the mental faculties are exercised in a partial and irregular manner, have a certain similitude to the phenomena of mental disease; but it seems unwise to push the comparison too far, as the French alienists appear to have done, in declaring the state of dreaming to be identical with that of hallucination from insanity.

The phenomena of intoxication present us with another example of impairment and irregularity of the mental functions, referrible to cerebral congestion. This example, however, is liable to the objection that the phenomena result from a poison in the blood, acting upon the brain. This objection does not appear to be well founded, for the following reasons: Persons habituated to the use of alcohol can take large quantities of it without experiencing any injurious effect upon the mental faculties. This would not be the case if it acted directly as a poison upon the brain-substance; for it is observed that substances which do act in such a manner, do not lose their power over the mental faculties by habitual use. The most habituated opium-eater dreams and sees visions under the influence of his drug, even to a greater degree than a beginner. Moreover, many narcotic substances, which produce very remarkable effects upon the mental faculties, do so without any appearance of cerebral congestion. Stramonium, belladonna, and aconite, may especially be mentioned as examples of this fact. These substances, which act without causing congestion, always produce their effects when they are taken; but the effects of alcohol are most uncertain. A quantity which in some men will produce little or no alteration of mental activity, will in others occasion the greatest and most irregular excitement of

thought and feeling. And this difference exists not only between men who are habituated to its use and those who are not, but among those of sober and temperate habits. Moreover, in certain states of the system, as in typhus, the largest quantities of alcohol may be taken without producing one symptom of intoxication. In such states its whole force is expended in sustaining the flagging energies of the nervous system, and if it tends to occasion cerebral congestion it is pernicious.

The phenomena of alcoholic intoxication, therefore, we hold to be in great part due to the cerebral congestion which it occasions; and these phenomena appear to us to present to us a far closer resemblance to those of insanity than any of the states of dreaming, or of partial and irregular sleep. The phenomena of intoxication are unfortunately familiar to every one; they vary greatly, however, according to the nervous organization of the drunkard, and according to the form and vehicle in which the alcohol has been imbibed. The sottish, swinish drunkenness of an English ploughman, with his stomach full of sour beer, is quite a different thing to the mad inebriation of an excitable Frenchman on fire with eau de vie. In the former, drunkenness consists more in partial palsy of the muscles and oppression of the brain, than in anything deserving the name of excitement. In the latter, exalted and perverted sensation, flighty imagination, blind passion, giving way to maudlin sentiment, a general and violent stimulation of the mental faculties, are the obvious characteristics of the condition; and they so closely resemble the phenomena of insanity, that while they last they may be said to be almost identical therewith.

If, therefore, alcoholic intoxication is the result of active cerebral congestion, and if its phenomena so closely resemble those of insanity, that, considered apart from their cause, and the condition of the stomach, they frequently cannot be distinguished, a strong probability is established, on the principle of referring like phenomena to like cause, that one pathological cause of insanity is that of active cerebral congestion. Such congestion is, doubtless, not uniform throughout the organ. "In the normal, nutritive conditions, a certain uniformity is found to exist; that is, a uniform distribution of the nutritive material, whence both the central and the peripheral organs are developed."—*Weld.* But, in abnormal conditions of the circulation, this uniformity of distribution no longer exists; and, in anæmic or hyperæmic conditions, the functions of a compound organ are thrown into a state of unequal excitement or depression. In simple

congestion of the organs, "Natural contractility and sensibility are lowered; but pain, spasm, and morbid sympathies are often excited, although in a manner much less distinct and constant than in inflammation or determination of blood. Thus, congestion of the liver is sometimes accompanied by pain or tenderness; sometimes it is without either. Congestion of the stomach sometimes causes gastralgia, nausea, and vomiting, with altered appetite; but these symptoms are often absent when the amount of disease of the liver, or the heart, and the subsequent occurrence of hæmatemesis, leave no doubt that the stomach was congested. The same remark is applicable to the kidneys, the uterus, the brain, and other organs."—*Williams's Principles of Medicine*. Such is the account given by a distinguished and acute pathologist, of the irregularity of function produced by congestion; but the analogy from an organ whose function is simple, to one whose function is so complex as that of the brain, can afford but a slight insight into the effect of similar pathological conditions in the two instances. Of the abdominal and thoracic organs, the stomach is that whose functions are the least simple. Its muscular movements are as ingeniously adapted to an end as those of the heart; they are even more complicated and less mechanical. In addition to this, the functions of secretion and absorption, discharged by its several sets of glands, add to the complexity of its duties. Congestion, as we have seen, causes irregular excitement or depression of all its functions, nervous, muscular, and secretive; yet, compared with the brain, how few and simple are its duties. The functions of the organ of the mind are more numerous than those of all other parts of the body put together; nor less distinct in themselves and inter-distinct in their action. Consequently, any pathological state which destroys their equilibrium, producing irregular depression of some functions, with irregular excitement of others, must cause a wider and more intricate range of anomalies than is observable in a similar state of the more simple organs.

The truth of these observations is not alone restricted to states of cerebral congestion; they refer equally to all pathological states of the organ dependent upon the condition of the bloodvessels and their contents in relation to the nutritive plasma, and the cells. As, in the body at large, it only happens in a state of perfect health that the nutritive fluid is distributed in due and uniform proportion to the several parts, so it is in that microcosm of the body, the brain. In a state of perfect health the nutritive fluid is distributed in due pro-

portion to each of its several parts, producing a uniform and well-balanced excitement of function; but in abnormal states of the circulation, this proportioned excitement of function disappears, and is replaced by irregular excitement. *Some functions become torpid and oppressed, while others are excited into preternatural activity; and this state affords the basis of insanity.* We are too little acquainted with the physiology of the several parts of the cerebral convolutions to form an opinion as to the existence of that vicarious action which we observe in abnormal states of the other organs. Probably no such action exists; probably that part of the brain devoted to the perception of sensation discharges no other function in any state of disease; and the same of those parts devoted to the various functions of intelligence, emotion, and propensity. If this be so, the whole phenomena of insanity are the more capable of elucidation from the irregular depression and excitement of the various parts of the brain devoted to the various functions of the mind.

The difficulty which this theory has to overcome is that of so-called perverted function, in which a mental state neither appears to be explicable by excitement nor by depression. But with regard to the sensational and intellectual activities, this perversion of function is merely apparent; and even the phenomena of perverted emotion, as we shall endeavor to show in another place, are capable of being explained in a manner consistent with the theory, that excitement and depression are the only abnormal states to which the separate functions of mind are liable.

It may be objected that the pathological relations existing between the blood and the cerebral cells, which are imperfectly represented by the terms *hyperœmia*, *anœmia*, &c., are not usually, and indeed very rarely, of that partial character which the theory of unequal excitement would seem to require. When opportunities are afforded for the examination of brains in which these conditions are observable, it is found that the convolutions are not in a hyperæmic or an anæmic state in parts only, and that in other parts they are in a healthy condition, or in a normal state. It is, on the contrary, found that the pathological appearances afforded in congestion of the pia mater and brain, or in a pale and anæmic brain, are general and uniform; and it may not appear easy to reconcile this uniformity of appearance with the theory of loss of uniformity in function. We can, however, gain instruction on this point also from analogy. It is found that the pathological conditions affecting the whole body do

not occasion uniform excitement or depression. The instance least liable to objection is that of general anæmia arising from loss of blood. In this condition, all the organs are found more or less exsanguine; and it might, *à priori*, be supposed that the consequence of this state would be a general failure or debility of the bodily functions. But, in reality, this is found to be by no means the case. The greatest irregularity prevails from the excitement of some functions, and the depression of others. It is reasonable to suppose that the same irregularity of function may be occasioned by the same apparent generality of pathological condition in the brain. Of the congeries of organs that subserve to animal life, some are more disposed than others, either from congenital or acquired tendencies, to take on diseased action. Of general pathological conditions of various kinds, some are disposed preferentially to affect one organ, others to affect other organs. Similar laws hold good in that congeries of organs which subserve to mental life; and hence the explanation of the fact that pathological states, which, to all appearance, implicate impartially the whole extent of the cerebral convolutions, result in comparative excitement of some functions, and depression of others. In brains organized with exact similarity, like pathological changes would, doubtless, occasion like effects. The effects would indeed differ from each other, in consequence of the selection which pathological changes invariably exercise in their action upon the organism. For instance, urea in the blood would invariably affect the temper; stramonium, or chloroform, would as surely affect sensorial activity; and other pathological states of the nutrient fluid would exercise a similar preferential choice. But, the pathological condition being given, the results would always be uniform, if the congeries of mental organs possessed a uniform proportion. But, in fact, this is not so. No one brain is like any other brain. Either by the force of inheritance from parent organisms, or through the influence of education or other modifying circumstances, every mind possesses such a peculiarity and individuality in the relative susceptibility and strength of its organs, that the same disturbing influence never produces in two brains exactly the same pathological effects. Thus, that transitory pathological state, occasioned by the introduction of alcohol into the blood, causes in one man excitement of angry feeling, in another that of joviality and benevolent sentiment, in another maudlin self-depreciation, in another intellectual vigor and enjoyment. Thus it is obvious that pathological states, whose symp-

toms during life, and appearances after death, seem to mark them as states of the whole cerebrum, are capable of being the cause and occasion of the most diverse states of excitement or depression in the congeries of organs whose union forms the brain, and whose action constitutes the mind.

Of late years, the application of a stricter logic to the appearances in the minute bloodvessels, recognized by a diligent use of the microscope, and to the phenomena of nutrition and decay, have occasioned great modifications in the scientific sense of the terms congestion, inflammation, atrophy, &c. A part is not acknowledged to be necessarily inflamed in which there is pain, heat, redness, and swelling. One pathologist insists that *stasis* of blood in the capillaries is necessary to the condition; another, that the true marks of the inflammatory action is the formation of fibrine exudates. Virchow goes so far as to call all disturbances of nutrition, and even all atrophies and degenerations, by the term inflammation.

Now, that condition of the small vessels of the brain which has in these pages been designated hyperæmia or congestion, doubtless gives rise to occasional stasis, and still more certainly is the occasion of new exudates. That these exudates do not tend to consolidation, or to the formation of fibres, or of pus-cells, may perhaps be allowed to distinguish them from those which take place in the so-called inflammations. And our denial that insanity is frequently conditioned by congestion, and rarely or never by cerebral inflammation, may be expressed with greater accuracy in the terms, that insanity is conditioned by disturbances of the cerebral circulation, which produce transparent exudations of serum, and interrupt the normal endosmotic motions, but which do not occasion the fibrinous and purulent exudations which are found in cerebritis.

The real importance of disturbances in the circulation depends upon their being the cause of disturbance in the nutrition of organs. The microscope has done much to elucidate the pathological changes which take place within the vessels, but next to nothing to inform us of those more important changes which take place in the cells. The changes which take place in the vessel accelerate, impede, or interrupt the nutrient supply of the cell; and questions relating to the stasis of the blood, to the formation or increase of the white corpuscules, to the dilatation or contraction of the smaller arteries or veins, the permanent size of the capillaries, the disappearance of Valentine's quiescent stratum, and other questions and facts relating to

changes in the small bloodvessels in congestion and inflammation, derive their real importance from their bearing upon the question of interrupted cell-nutrition. Outside the vascular wall, the microscope has been able to make but few and inconclusive revelations. Exudates can, indeed, be observed when they have become organized, although they escape observation when they first transude clear and fluid. But those far more common and important exudates, which remain clear and fluid until the pathological condition which has occasioned them has passed, those productions of congestion which interrupt by their presence and their pressure the endosmotic nutrition of the cells and the functions of organic life, are indistinguishable by the microscopic pathologist. But the cell, the agent of function and the centre of interest to the rational pathologist, conceals all its earliest and most important changes under the veil of transparency. In the words of Weld, "If we desire to resolve the life of the organism, as it were, into its elements, we must endeavor to acquire a more intimate acquaintance with the vital properties of its elementary organs—the cells; we must endeavor to ascertain how the first appearance of the cells in the homogeneous *blastema* is evidenced—how their multiplication by division proceeds—what metamorphosis they undergo—what are the conditions presented in the cells in their further existence—whether they remain stationary in their external habit or not—what stages of development they reach—whether motile phenomena occur in them—or, in other words, we must strive to comprehend the cells as something living, in their nutrition, propagation, and movement. This vital and physiological survey must also be carried on in a pathologico-histological point of view, so that we must not be content to confine our regards merely to what is presented in the dead subject."

It is adverse to our hopes of rapid progress in the knowledge of the ultimate conditions of disease, that those parts of the organism which are endowed with the greatest vital energy, contain the smallest proportion of solid material adapted to the successful manipulation of optical and mechanical pathologists. Every minute particular in the formation of bone and cartilage appears likely to be known; and a large space in the Transactions of the Pathological Society is devoted to papers read by dentists, on the disease and construction of the teeth. But diseases of the nerve-cell are beyond the ken of eighth of inch object-glasses; and, in all probability, pathologists will long be baffled by the impracticable translucency and minuteness

of those parts in which the ultimate conditions of disease most formidable to life are seated.

The conditions of the minute vessels in a state of hyperæmia will, however, explain one important fact on which we have commented above—namely, the depression of function in one part of a compound organ, with the excitement of function in another part, when the whole organ presents the appearance of uniform congestion. It appears, from the experiments of Bidder, that the notion, hitherto common, of the dilatation and contraction of the capillaries, is erroneous. The small arteries and veins which are distinguishable from the capillaries by nuclei, and which also possess a layer of muscular fibres which is wanting in the capillaries, contract under the first stimulus of an irritation, and subsequently dilate. When dilated, they supply a larger stream of blood to the capillaries. From hence arises a larger quantity of nutritive plasma, and greater functional activity. But, in other parts of the same organ, a different state of the small vessels may exist; the veins and arteries may be dilated and contracted in a varicose manner, and the flow of blood through them be less than in their normal condition. Or it may be interrupted by adherence of the corpuscules to their wall, and to those of the capillaries, indicating the commencement of stasis. Under such circumstances, the nutritive plasma, exuding for the renovation of the cells, will be greatly diminished, and functional activity will be depressed. This is one reason why functional uniformity in a compound organ suffers from congestion. Another cause arises from the nutritive exudations, which take place in excess in one part of the organ, occasioning a species of hypertrophy in that part, and thus giving rise to pressure on other parts of the organ, which pressure prevents transudation, and impedes functional action.

But in addition to this explanation of loss of uniformity of function from the inequalities of pathological changes, another cause of equal potency is to be found in the organization of the compound organ itself. The congeries of organs constituting the brain, like the congeries of organs which constitutes the body, is rarely devoid of one or more organs, which differ from the remainder either in their size and power, or in their weakness and in their aptitude to incur morbid change. As in the body of different men, any disturbing influence operates almost exclusively upon the pulmonary, or the intestinal mucous membrane, or upon the heart, or upon the liver—so, in other men, any cause disturbing the physiological conditions of the brain,

operates almost exclusively upon some one or other of the emotions or propensities. This power of selection may, in some instances, be attributed to the mere size and preponderating force of the organ. Thus, a man in whom the exercise of intellect and the subjection of passion has been the result of life-long effort, will, under the influence of any excitement, experience exaggeration of the intellectual functions alone; or a man who has habitually submitted himself to the domination of benevolent or malevolent emotion will, under excitement, have the benevolent or the malevolent emotions exclusively exaggerated. In the natural and healthy state of the organs, the preponderating force of any one of them may be overlooked; but when any morbid excitement occurs, the preponderating force of the dominant organ makes itself unmistakably felt. In De Quincy, the excitement of opium pictured before the imagination a gorgeous array of poetic fancies; in Coleridge it resolved itself into the more intellectual type of metaphysical subtilties; in the savage Malay it produces revolting acts of headlong fury and bloodshed. The stimulus of alcohol is the occasion, among men of high intellectual organization, of "the feast of reason and the flow of soul." Among the pariahs of civilization, it is the cause of base passion and brutal excess. These facts give a clue to circumstances which not unfrequently present themselves in the history of mental diseases, in which the natural bent of the character and disposition is observed, not to be perverted, but only to be exaggerated beyond the boundaries of sane mind, by the action of morbid changes. A lady, whose character has always been distinguished for conscientiousness, and whose religious education has been of a sombre kind, has an attack of small-pox, during which symptoms of acute delirium and cerebral congestion show themselves. After recovery from this zymotic disease, the natural bent of the mental disposition is found to be greatly exaggerated. The irritability of conscience has become an actual disease, destroying the happiness of the individual, and rendering her incompetent to discharge any of the duties of life. A distinguished admiral, who has always been remarkable for pride and liability to passionate anger, is subjected to severe chagrin by a supposed neglect of government; he suffers from a distinct crisis of cerebral excitement, with loss of sleep and general feverishness; and, for the remainder of his life, his pride and passion are exaggerated to the dimensions of undoubted insanity.

As in one man a cold always flies to the bowels, and in another to

the lungs, so the causes of mental disease strike exclusively upon one or the other organ of the mind. In the above instances, which we have given from our own observation, it does so, because the organ affected is the most liable to excitement, from its predominance in size and vigor. But the vigor of any bodily organ renders it less rather than more exposed to morbid influences. The cold, or the fever, or the poison, flies to the weak organ rather than to the strong one. The cause of this difference between the glandular organs of the body and the cerebral organs, appears to lie in this, that in the bodily organs healthy excitability has strict limits, and the amount of functional force within the limits of health is also strictly defined. But in the cerebral organ it is not so; not only do size and power increase with action, but excitability also increases; use and habit render the intelligence, or any of the emotions, not only more vigorous in action, but more ready to act. In this respect some parts of the muscular system bear a close analogy to the cerebral.

There is, however, another class of circumstances opposite to the above, in which causes of morbid change affect a particular mental organ, on account of its weakness and not on account of its strength. There appears to be a difference, in this respect, between the organs which subserve the emotional functions and those which subserve the intellectual. In the former, the size and vigor of an organ render it more obnoxious to be affected by morbid influences. On the other hand, in that part of the cerebrum devoted to the intellectual activities, it is the weakness and imperfection of the organs which render them peculiarly liable to take on diseased action.

That insanity is frequently conditioned by a preternatural fulness of the cerebral vessels, which interferes with the uniform and healthy interchange of nutritive plasma, passing from the vessels to the cells, and of the fluid cell-contents in a state of involution or degenerative metamorphosis, passing from the cells to the vessels,—a fulness unaccompanied by exudation tending to become organized, that is, by congestion and not by inflammation,—is proved—

First. By the exciting causes of many cases of insanity, which causes evidently tend to hyperæmia of the brain, and which in their more powerful operation frequently give rise to inflammation itself. Injuries to the brain, from blows, falls, or exposure to heat, if of a certain intensity, produce inflammation; if they be of a less intensity, in predisposed persons, they give rise to insanity. Repeated congestions of the brain from alcoholic drinks have a like effect. And

finally, that frequent and unquestionable cause of congestion in all organs of the body, overwork of the organ itself, is a well-recognized and efficient cause of mental disease.

Secondly. The symptoms attending many cases of insanity, are those of cerebral congestion. The forehead and vertex are hot, the face flushed, the conjunctiva injected, the carotid and temporal arteries beat strongly. Sometimes there is pain in the head; more commonly there is a sensation of weight and dulness. Moreover, the general system suffers from that imperfect and undeveloped state of pyrexia which accompanies active congestion of any important organ.

Thirdly. Remedies which are efficient in the removal of congestion, are most beneficial in the early stages of many cases of insanity. Cold applied to the scalp by means of the ice-cap, cold lotions, or irrigations of cold water; leeches to the temples, and cupping to the nape of the neck; derivation to the intestinal canal by purgative medicines, or to the skin by warm baths; produce the most marked benefit in the early stages of mania, arising from the causes and accompanied by the symptoms above stated.

Fourthly. When opportunities occur to examine the post-mortem appearances of such cases before they have become chronic, and have passed into the conditions of atrophic decay, the appearances are those of congestion of the pia-mater, with deepened color of the convolutions; sometimes, but not always, accompanied by punctiform injection, or general pinkiness of the white substance of the cerebrum.

We are fully aware that an objection may be raised to the congestive theory of the pathology of insanity, from the fact, that those diseases of the heart and lungs, and tumors pressing upon the jugular veins, which appear to be efficient causes of cerebral congestion, may, and frequently do exist, without symptoms of mental disease. The objection must be admitted for what it is worth. It is sufficient to stimulate inquiry into the essential differences of congestions variously caused; but it does not appear to be sufficient to set aside the arguments above adduced in favor of the theory. The brain of persons not predisposed to insanity may be able to accommodate itself to congestion slowly produced by the operation of these causes. Such congestions are likely to affect the whole of the cerebral organ equally; and may, therefore, be wanting in that loss of uniformity which constitutes so remarkable a feature in mental disease. Doubt-

less there are many persons who suffer from extreme degrees of emphysema of the lungs, or of disease of the heart, who display no symptoms of mental disorder. But it is not certain that, in all instances, the congestion which empurples the face, extends itself to the organ of mind. And on the other hand, there are cases sufficiently numerous, in which the impeded return of the blood from the head, occasioned by thoracic disease, does not appear to produce mental disorder. We have seen several cases in which asthma has appeared to have this effect; and Mr. Ley, of the Oxford Asylum, has observed many cases in which pulmonary emphysema has been the remote cause of insanity. The probable cause of apparent anomalies in this matter would seem to be, that, in some cases, congestion has been slow in its production, and uniform in its extent and influence. In such cases the mental functions are debilitated, but not deranged. We have never seen an instance of extensive pulmonary emphysema, or of any other disease which occasioned marked and persistent congestion of the head and face, in which there was not some debility of mental function. That such debility is not at first apparent, receives a probable explanation from the fact, that congestions arising from obstructions to the return of the venous blood, display themselves in the vessels of the areolar tissue and of the skin, in a more marked degree, and at an earlier date, than in the vessels of large glands, and other important organs. Thus, obstructions to the blood in the lower parts of the body give rise to œdema of the cellular tissue of the legs and abdominal dependencies, before they interfere greatly with the functions of the liver, the kidneys, or the intestinal canal; and the same rule appears to hold good in congestion from venous obstruction in the head. The active discharge of function in large vascular and energetic organs, resists the influence of such causes of congestion long after the vessels of the cellular tissue, whose functional activity is much lower in degree, have been thrown into a pathological condition thereby. The greater the functional activity of a healthy organ, the more energetic its resistance to the causes of disease.

Anœmia.—That numerous instances of insanity are conditioned by the state of the cerebral vessels generally but imperfectly expressed by the term anæmia, may be proved by an array of arguments similar to those which we have adduced to prove the influence of congestion:

First.—The efficient causes of numerous cases of insanity are

actual loss of blood, or a deficiency in its nutritive powers, occasioned by insufficiency of food, or by impediments to the conversion of food into healthy blood; or by the numerous anti-hygienic influences which limit the quantity, or weaken the nutritive quality of the blood in the cerebral vessels. Anæmia is a vascular condition with which the microscopist is far less intimately acquainted than that of congestion. It is not much that he can learn respecting it from the foot of the frog, the wing of the bat, the tail of the tadpole, or the mesentery of a young rabbit. It is a condition on which the inductive reasoning of the general pathologist is of more weight than the prying eyesight of optical philosophers. After death the whole mass of the organ is found to be paler than usual, and that is about all with which actual observation has hitherto been able to make us acquainted. But even could it with ease be demonstrated upon the field of the microscope, that cerebral vessels in an anæmic condition have any distinctive characteristics, it is improbable that such observations would explain more than the simple fact, which we can understand as well without, namely, that a dilute state of the blood is as great a hindrance to functional vigor as that congestive commencement of *stasis*, which deranges endosmic action, by an opposite condition of the capillaries. Certain physiological actions being necessary for the nutrition of the brain-cell and its healthy functional activity, any impediment to these actions interrupts this activity. Hence the mark-worthy fact, that the essential symptoms occasioned by congestion and anæmia greatly resemble each other. The physical symptoms of fainting from loss of blood, and of coma from suffocation, are sufficiently distinct; but the psychical symptoms resemble each other very obviously. In both there are the same affections of the senses, the same sparks and flashes before the eyes, the same tinnitus aurium, the same thick-coming fancies, followed by loss of consciousness, the same painful sensations attending recovery. The slighter, but more persistent degrees of hyperæmia and anæmia, are attended by symptoms readily distinguishable from each other, both by physical and psychical symptoms. In hyperæmia, with hot head and fulness of the cerebral vessels, the cerebral functions are discharged with slowness and difficulty. In anæmia, with pale face, cool head, and weak pulse, the cerebral organs are in a state of irritable weakness, easily excited to action; the action, however, being powerless and irregular. In fact, the mental state in anæmia differs from that which is observable in hyperæmia, much in the same manner as the muscular system

in an exsanguinated person differs from the muscular system in one morbidly plethoric. In the former it is quick, irritable, and tending to convulsive irregularities; in the latter, it is less subject to be thrown into violent action or convulsion, and its motions are slow and oppressed. This distinction, however, is by no means constant. The state of anæmia, carried beyond a certain point, destroys the functional excitability and activity of an organ. Moreover, when an organ has made decided progress in the march of retrogressive change, it loses its excitability. Thus it happens that anæmia of the brain, combined with atrophic decay, is accompanied by loss of functional activity, and is a frequent cause of dementia; while, on the other hand, the rapid nutrition of some portions of the brain, occasioned by a moderate degree of active hyperæmia, augments functional susceptibility and power.

We must in this place guard ourselves from a possible misapprehension which may arise, from the stress which we lay upon the quantity and movement of the blood in the cerebral vessels. We are so far from regarding these as the ultimate causes of insanity, that we look upon them merely as one link in the series of proximate causes; and that link at two removes, at least, from the termination of the chain. Between the ultimate condition upon which mental function, either normal or abnormal, depends, and the condition of the blood in the cerebral vessels, there must at least intervene the condition of the stroma external to those vessels, and the condition of the cell-contents. To these may perhaps be added, the condition of the capillary, and of the cell-walls. But these conditions are beyond the sphere of our present powers of observation. The state of the blood in the capillary vessels is the circumstance lying the nearest to that ultimate molecular change resulting in functional activity, with which our present powers of observation are able in any way to make us acquainted. We must trace the path so long as it is visible, and we must carefully take its bearings at the point of its disappearance. The direction of its last visible trace is often of more value to guide us onward, than the whole length of its previous course. But the importance of any link in the series of causation must not be under-estimated because it is placed at some removes from the end thereof. The aim and end of science is to predict. If our knowledge were complete, we should be able to predict with certainty from the conditions of any one part in the path of causation, the conditions of all subsequent parts, and of the end. If our knowledge

were complete, of the cerebral organization, we should, from any morbid state of the cerebral capillaries and their contents, be able to predict the anomalies of mental function which would result therefrom. To this end, it is true, we should require to possess a knowledge of the state of the cells, upon which morbid conditions of the circulation have to act. And herein lies the great difficulty of pathological science, that these minute, but all-important constituents of the organization, refuse to yield their secrets. All that we know of them is, the place where they lie in the path of causation, namely, between the network of capillaries and the phenomena of function.

Rokitansky has expressed his opinion that the conditions of the nerve-mass are independent of those of the nutrient supply, and that the state of the capillaries and their contents is often, if not generally, a phenomenon consecutive to and dependent upon the state of the nerve-cells. At bottom, this question resolves itself into the origin of thought and consciousness. If healthy blood supplied to healthy nerve-substance, is the only origin and occasion of nervous function, nervous function must be dependent and consecutive upon the supply of healthy blood. But if healthy nerve-substance can set in movement its own activity, by an independent and spontaneous act, which occasions those molecular changes of involution and repair, to effect which the capillaries and their contents are essential, then Rokitansky's view of the pre-ordination of cellular change to vascular change, may possess some probability.

But even admitting the possibility of this, the connection between cellular and vascular change is of so intimate a character, that it is difficult to assent to Rokitansky's proposition, that pathological conditions of the cerebral vessels are to be viewed as secondary phenomena. This question is of far greater importance than may at first appear; since it has been quite the custom among a certain class of writers, to argue that the pathological changes discoverable in the brains of insane persons are secondary changes, of little importance to the elucidation of mental disease. Pinel, and after him, Esquirol, unfortunately expressed this opinion. These great alienists, with vast experience of the phenomena of insanity, lived and wrote before pathological knowledge had become developed into a science. They looked for gross and unmistakable changes of structure. Failing to discover these, they were led to the admission (which few pathologists of the present day would indorse) that functional disturbance may exist without organic change, and that organic change may

exist without necessary connection with functional disturbance. Their observations have been quoted, and their opinions repeated and developed by numerous writers, whose prejudices or preconceived beliefs have led them to regard insanity as the condition of a certain metaphysical entity; and it is to be regretted that so high an authority as the great pathologist of Vienna, should in any way be available for the support of this false and mischievous opinion.

The opinion that pathological conditions of the cerebral vessels are secondary phenomena, is available for this purpose, because such conditions are the only visible and appreciable changes which present themselves in a large number of instances. The theory of the metaphysicians is based: 1st, upon the assumption that insanity may exist without cerebral change; and 2d, upon the assumption that the visible changes which are most observed (that is, the vascular changes), are not primary and essential phenomena, but secondary and unessential. It therefore becomes of the utmost importance that clear ideas should be formed respecting the succession and dependence of pathological phenomena.

That functional disease, both of the brain and of other organs, may exist without appreciable change of structure, is a fact which will continue to be explained by some persons of a certain mental constitution, by certain verbal formularies respecting vital and spiritual dynamics, and which will, by other minds, who submit their operations of thought to more stringent rules, be attributed solely to our limited powers of observation. But, the question of the primary or secondary nature of the pathological changes which are found to exist in the brains of persons dying insane, is a point on which differences of opinion exist, even among persons who look to structural change alone as the cause of functional disturbance. The opinion of one side may be thus stated: the morbid activities of the cerebral cells, being excited by sensational impressions, are the determining cause of morbid conditions of the cerebral capillaries. The adverse opinion may be thus stated: a morbid condition of the cerebral capillaries, occasioned by agencies influencing the circulation, is the sole determining cause of morbid changes in the cerebral cells. An appeal to the etiology of insanity seems to assure us that both views are partially right, and both are partially wrong. Functional disturbance of the brain may, undoubtedly, be occasioned by changes provoked in its organism by sensational impressions, and between such impressions and the cerebral vessels a condition of the cerebral

cells must undoubtedly intervene. In cases of insanity so produced (that is, in most cases dependent upon moral causes), it may be granted that a pathological condition of the cerebral vessels cannot be antecedent to a pathological condition of the cells. But, if subsequent thereto, it must be immediately subsequent and necessary.

It is supposable that the first cell-change is slightly anterior to any modification of the capillaries which supply nutriment to, and remove material from, the morbid cell. But it is impossible that morbid changes can take place in the cells of an organ, without the capillaries being immediately influenced thereby. Any change so produced in the capillaries may, therefore, be theoretically called secondary; but, if secondary, it is nevertheless a necessary change, without which the condition from whence it arises cannot continue to exist.

The physiological vascular changes which take place in the lungs, are secondary to impressions made upon nerve-cells. It is thus that they are first excited, and continue to be maintained. But they are a necessary consequence of such impressions, and a necessary condition of the continuance of such impressions. Thus, although secondary, they are not the less physiologically necessary.

In most instances of insanity arising from physical causes, it is probable that the pathological condition of the cerebral cells is subsequent to, if not dependent upon, the pathological condition of the cerebral capillaries. It is unnecessary to go through the roll-call of the physical causes of mental disease; suffice it to say, that, injuries to the head, fever, suppressed discharges, alcohol, and other noxious ingesta, can only influence the cerebral cells through the medium of the capillaries.

There may be some doubt respecting cases occasioned by nervous irritation, propagated from distant parts of the body, or affecting the brain in the manner which we formulate under the term nervous sympathy. With regard to all other physical causes of mental disease, it is scarcely possible to doubt, that, a pathological condition of the cerebral vessels, is not only an essential condition of the disease, but that it is also one which takes place in order of time antecedent to any pathological condition of the cerebral cells. But, whether the cerebral changes observable in the insane are primary or secondary, it cannot be denied that they are the results of the disease; and even if it could be proved that they were invariably of a secondary character, they would not the less bear testimony to the nature of in-

sanity being that of morbid physical change in the cerebral organs. Undoubtedly, the vast majority of the pathological appearances observed in the cerebrum are of a secondary nature, since they are those of atrophy and decay. But the charred beams and blackened walls of a ruined homestead do not speak more eloquently of previous conflagration, than the dilapidated roof and mouldering structure of a decaying building speak of the slower process of oxydization or eremacausis; and a brain with organized exudations, testifies not less strongly to previous deviations from normal physiology, than an atrophied brain, without such accompaniments, speaks to the existence of the slower process of defective nutrition and degenerative metamorphosis.

Insanity is a chronic disease, and not frequently fatal in its early stages. It is therefore unusual to meet with the simple appearances of congestion, or of anæmia, which have hitherto occupied our attention. The commonest appearance met with in the brains of insane persons, is that of shrinking. The author has, in the January number of the *British and Foreign Medical Review*, for 1855, published some investigations made upon this important subject, and has there tabulated the measurements and weights of sixty-four brains, which were examined for this especial purpose.

The manner he adopts for estimating the amount of atrophy is as follows:

"The brain, including the medulla oblongata, is slowly immersed in a vessel of convenient size and shape, which is filled with water up to the level of a capacious spout placed at an acute angle with the sides. Before the brain is so immersed, the contents of the ventricles, and any serum which may be in the subarachnoid tissue, are allowed to escape through several long incisions. The organ is not allowed to remain immersed long enough to imbibe water, which it is capable of doing in large quantity, as proved by the experiments of Nasse. As it descends in the vessel, the water it displaces escapes from the spout, is caught and measured, and affords a criterion of the actual bulk of the brain. (See 18th column of Table.)

The capacity of the cranium is obtained by a somewhat more troublesome process. It is well known that one of the older physiologists employed millet-seeds for this purpose; Sir W. Hamilton used sand: but neither of these methods would be feasible in the recent subject. The plan which the author has adopted is as follows: the foramina at the base of the brain are carefully plugged with tenacious clay—

that used by statuaries for modelling answers best; a small triangular piece of the frontal bone is removed with the saw; the calvarium is readjusted to the base, the dura mater being left attached. The space left by the attrition of the saw, in removing the calvarium, is filled up with clay; and a narrow bandage, with clay spread upon it, is made to surround the cranium three or four times, covering this space. If this manipulation has been carefully done, the cavity of the cranium will now be found as tight as a bottle. Sixty fluid ounces of water having been measured, a sufficient quantity to fill the cranial cavity is now poured from it, by means of a funnel, through the orifice in the frontal bone, taking care that the stream does not wash away the luting of the foramina. The fluid which remains, after having filled the cranial cavity, is measured, and being deducted from the sixty ounces, gives the amount employed. (See column 19 of Table.) Thus, if nine ounces and two drachms remain, the capacity of the cranium was fifty ounces and six drachms; and if the amount of the fluid displaced by the brain was forty-five ounces, the amount of atrophy was five ounces and six drachms. To this must be added half an ounce occupied by the luting, giving the actual amount of atrophy as six ounces and two drachms. Of course this examination is made before the chest is opened."

For the results of these sixty-four examinations, we must refer the reader to the table at pages 216 and 217 of the above-named journal. The general results were an average amount of atrophy to the extent of five ounces and a quarter, varying from nothing to fifteen ounces, or one-third of the whole cerebral mass. In thirteen patients whose ages exceeded sixty-five years, the average amount of atrophy was eight ounces and one-sixth, or more than fifty per cent. above that of the whole number. The amount in epileptic cases was greatly below the average of the whole. The general result arrived at was that—

"In cases of chronic mania, of dementia following mania, and of primary dementia, the amount of cerebral atrophy may generally be calculated upon by the enfeeblement of mental power. In all these forms of disease, we have found some amount of atrophy, and have, for the most part, found this amount to correspond with the degree of mental decadence estimated with its duration. The first of these conditions, that is the degree, it is impossible to tabulate; the second, that is duration, it is not easy to show accurately in a tabular form. The sixth column of the table above referred to represents the dura-

tion of disease from the period of the first appearance of symptoms, as nearly as it could be ascertained. These symptoms may have been slight for years, and grave for a short time only before death."

"It must not be thought that extensive atrophy is only found where the mental symptoms are solely those of impairment or loss of function. It is not inconsistent with much mental excitement, or with numerous delusions; but such excitement is powerless, and the delusions are transitory and puerile. Whether *measurable* atrophy exists in the early stages of acute mania and melancholia, the data we possess do not prove; although they are amply sufficient to demonstrate that the cerebral conditions upon which these forms of insanity depend, tend to pass into an appreciable and measurable shrinking of the brain-substance, unless the healthy cerebral action be speedily restored."

"Opinions on the ultimate nature of the nutritive defect which results in cerebral atrophy and insanity, must necessarily be speculative, since the ultimate nature of nutrition itself is unknown to us."

Its apparent and exciting causes may be classified as follows:

1. In predisposed persons it may depend upon poverty of blood, since it is producible by deficient food, and by diseases interfering with the alimentative processes; and since an analogous train of symptoms occurs during starvation.

2. It is probable that in other cases it may depend upon some derangement of 'the intimate connection between the nervous and vascular systems, through which their most important functions are performed,' since it is sometimes found to be accompanied by extensive disease of the minute cerebral vessels, the coats of which can be shown to be subject to fatty or earthy decay.

3. A third class of cases would appear to be producible by the molecular change effected by blows or violent concussions, and followed by atrophy, owing to some process as yet unknown to us. Atrophy of a testicle from a blow, without inflammation, presents an analogous instance.

4. Another class of cases are those following inflammation, and perhaps also following frequent or long-continued congestion. The basis of inflammatory action is an abnormal state in the mutual relationship between the blood and the tissues. That this state effects changes in the tissues, which, if not speedly repaired, must be followed by conditions of degraded nutrition, is proved by the pathology of every organ in the body. The brain certainly offers no exception.

The capillaries become blocked up, or their coats become spoiled, for the purposes of nutritive regeneration of the tissues.

It also appears probable that, during inflammatory or congestive conditions, albuminous matter or serous fluid may be effused by the capillary network into the intimate structure of the brain; thus separating its vesicles and tubules from the capillaries, and preventing the due nutrition of the elements of nerve-structure. For this form of atrophy, we have formerly suggested the prefix of *relative*, as it may exist where there is no shrinking of the brain; atrophy with shrinking being termed *positive*. The two, however, may, and frequently do, coexist.

5. The most numerous class, however, is that which depends upon want of rest, and the especial period of nutrition of the brain, namely, sleep. Want of refreshing sleep we believe to be the true origin of insanity dependent upon moral causes. Very frequently, when strong emotion tends to the production of insanity, it causes, in the first instance, complete loss of sleep. In many cases, however, the power of sleeping is not lost, but the quality, so to say, of the function, is perverted, the sleep being so distracted by agonizing dreams, that the patient awakens jaded rather than refreshed. We have known several instances in which patients becoming convalescent from attacks of acute mania, have distinctly and positively referred to frightful dreams as the cause of their malady; and it is probable that a certain quality of sleep, in which dreams excite terror and other depressing emotions, more forcibly than waking events are likely to do, is not less adverse than complete insomnia to the nutritive regeneration of that portion of the brain on whose action those emotions depend. In such a condition, it is highly probable that the very portions of the brain which most need a state of rest are, even during the sleeping quiescence of other portions, more wastefully engaged in the activity of their functions than they could be in the waking state. The mainspring of insanity is emotion of all kinds. This, stimulated by phantasy, and emancipated from the control of judgment, during harassed sleep, may be more profoundly moved than at any other time. Bichat considered sleep to be a very complex state, in which it was possible for the cerebral functions to be in very different conditions of quiescence or activity: 'Le sommeil général est l'ensemble des sommeils particuliers;' and he considered that dreams represent the active or waking condition of certain of these functions during the repose of the others. In this manner, a

patient, some one or other of whose emotions has been profoundly affected, may continue to be sleepless, as far as the activity of the particular emotion is concerned, although he may by no means be the subject of general insomnolence; and this consideration will afford what seems to be a fair explanation of the exceptional cases to this rule, that the moral causes of insanity act by preventing the due nutrition of the brain, as it occurs during sleep."

On these five classes of the causes of atrophy, we shall here make some further observations. In tracing the course of cerebral atrophy, it will be convenient to select that variety whose causation and phenomena are of the most simple and intelligible kind. This would appear to be presented by the atrophy accompanying old age. The balance between the functions of repair and decay, which in health maintains every organ in a state of size and power, uniform within certain limits, is lost as age advances, and the tissues of the body lose their perfect organization and pristine vigor. The duration of the life of an animal depends upon the period of its existence when this loss of balance occurs; but it is impossible to explain why these slow but fatal changes take place at certain specified periods; why the tissues of a sheep become worn out at a period of ten years, and those of a man endure seven or eight times as long. It is impossible even to point out any necessity for this degradation of tissue at all. We must accept, as an ultimate fact, or as a law of nature, that such degradation of tissue in the organs of all living beings, takes place at a certain fixed period of their existence. To say that this period is fixed by the laws of hereditary tendency, explains nothing. In man, this change commences, as we well know, at the age of sixty years. About that time, the nutritive repair of the organs begins slowly to fall short of the amount of their decay. The muscles gradually become smaller, weaker, and paler, and the brain undergoes the same process of change. In the brain, one cause of this process is, perhaps, more easily traceable than in other organs—namely, to a change in those minute vessels by means of which the processes of nutrition are carried on. It is true that the cerebral capillaries are beyond the reach of satisfactory microscopical observation; but the cerebral arteries may be observed with facility. The coats of these are found to be thickened and opaque, and occupied by that which is called atheromatous deposit—namely, by a material composed of fatty substances and earthy salts. In the larger arteries, whose different coats are distinguishable, this fatty deposit, or

rather this fatty degeneration, is found to have its seat external to the elastic coat, and internal to the outside cellular envelope. If this degenerative change can be traced in the smallest arteries, whose construction is capable of being submitted to observation, it is in the highest degree probable that the change is not limited to them, but that it extends to the unnucleated capillaries, whose minuteness forbids its demonstration. The plasma of the blood permeates the capillary walls from within, outwards; and the exhausted cell-fluid permeates from without, inwards, with slowness ever increasing as the capillary walls are injured by deposit. From this slowness arises lentor of the cerebral functions, displaying itself at the earliest period in those functions whose activity is not kept alive by habitual use; and to a still greater degree in those functions whose activity is dependent upon the stimulation of the senses, the organs of which have also undergone contemporaneous decay. But debility of function, arising from the slow interchange of material between the capillaries and the cells, would not account for atrophy, if the balance of the interchange was still exactly adjusted. Slowness of mental function is often seen in persons of phlegmatic habit from this cause, without the condition of atrophy being present. But in the degenerative changes of old age, the balance of exchange between the capillary and the cell-contents is not maintained. The probable explanation of this is afforded by the supposition, that the greatest activity of exosmosis from the capillaries takes place in that part of the capillary system which is adjacent to the arteries; while the most active endosmosis of exhausted cell-fluid takes place into that portion of the capillary system which is adjacent to the minute veins. Now, the pathological changes under consideration affect the arterial system, if not exclusively, yet to a much greater extent than they affect the venous system. The arterial capillaries have coats more thickened and degenerated than the venous ones; and thus a greater impediment is placed against the outflowing of the materials for nutrition and repair, than against the inflowing of the exhausted cell-fluid, and the foundation of atrophy is established. Whether any pathological changes, corresponding in their nature to the fatty degeneration of the arterial coats, take place in the cell-walls themselves, we are unable to ascertain, or even to gain better grounds for reasonable conjecture, than the probable participation of all the tissues in the degenerative changes. The law which limits the duration of organic completeness, which weakens the force of that unknown something

which we call vital power, and which permits the chemical affinities of the constituents of the body to exert themselves with increasing force, this law, doubtless, operates upon all parts of the organism, although with different degrees of intensity, and at different periods of time. The glands which secrete the hair on the vertex vacate their office before those which secrete the hair on the brows, and the latter do so long before the glands which secrete nails. But the law of decay is universal, and doubtless touches the cerebral cells independently of their connection with the minute vascular network.

Next to the atrophy of old age, that proceeding from pathological changes of the vascular system, approximating to the state called inflammation, is the most simple and intelligible.

We have above given reasons for the opinion that the chronic class of diseases known under the generic term of insanity, are not referrible to inflammation of the great nervous organ. Inflammation, however, may, and sometimes does, cause changes in the organ, which are the conditions of insanity. In the brain the state of inflammation itself either very quickly ceases, or very soon causes death; but when it does cease, it leaves behind it consequences which are frequently the conditions of insanity, the causes of cerebral atrophy.

Inflammation of all soft organs is apt to result in atrophy, after the organizable products which at first increase the bulk of the organ have contracted upon the bloodvessels, and cut off, to a greater or less extent, the nutrient supply. The heart, indeed, affords an apparent exception; but its structure is seldom inflamed, and its hypertrophy is consequent upon increased exertion, necessary to overcome mechanical difficulties which have arisen from inflammatory injury of its valves or serous covering. Inflammation of the brain is followed by atrophy, with as much certainty as inflammation of Glisson's capsule is followed by atrophy of the liver. Whether it arises from the same cause is yet unknown.

The structure of the brain contains no quantity of areolar tissue, corresponding to that which, when augmented by inflammatory processes, squeezes the liver into a hob-nailed callosity. The cerebral ependyma is exquisitely minute and fine, recognizable only to the most skilful microscopist, and it has not hitherto been proved to be subject to any pathological change. The atrophy of the brain following inflammation, would seem rather to be the result of injury to its capillary vessels, than of shrinking occasioned by the contraction of organizable exudations, or of thickened areolar tissue. The coats

of the cerebral vessels are more prone to change than those of any other part of the body, and, after inflammatory processes, the coats of the minute arteries are found to be thickened and opaque, and those of the larger arteries to be marked by more or less extensive patches of aplastic fibrine, or atheroma. There can be no doubt that the capillary vessels are subject to a similar change, and that thus the due amount of nutritive supply to the cellular tissue is permanently cut off.

Moreover, the nutrition of the brain depends upon its exercise, and its exercise depends upon the perfection of its organization. Its organization once injured by inflammatory action, its uniform and harmonious exercise becomes henceforth impossible, its nutrition is impeded, and atrophy results.

It will appear from the above, that we attribute a large share of mental disease to pathological conditions of the brain, whose most prominent characteristic is defective nutrition of the organ. In a very large proportion of cases, this deficient nutrition is manifested after death in an actual shrinking of the brain—a shrinking which is coextensive with the duration and the degree of loss of mental power. This loss of power marks all instances of cerebral decay, and is consequently a condition of most chronic cases of insanity. Partial mental excitement is, it is true, an incident constantly recurring, even in forms of mental disease where the general loss of power is most conspicuous, and where organic atrophy is found to be most considerable. This partial and irregular excitability is common to organs whose nutrition is defective, and the general vigor of whose functions is greatly weakened. Thus, a diseased stomach, quite unable to supply the amount of solvent secretion needful to digest a due supply of food, frequently torments its wearer by excessive and irritating secretions of gastric juice, at times when it can serve no good purpose, and only tends to heartburn and acid vomiting. So, also, the atrophied brain is exceedingly prone to sudden erethism, more or less partial, which manifests itself in strange and irregular excitement of the mental functions. Such excitement is usually followed by increased debility of function; and it is by no means uncommon to observe a regular alternation of mental excitement and debility. The excitement is more or less partial, and affects principally the emotional functions. The intellectual functions are also liable to be so affected; but, inasmuch as the operation of the whole of these functions is necessary to the performance of common intel-

ligential acts, and, as in spoiled brains, the whole of them are not usually excited at the same time, the fact of this condition in any one of them often attracts no attention.

The emotional and instinctive functions present the most frequent and easily appreciable instances of cerebral excitement. Pathologically they present counterparts of excessive gastric secretion, which takes place in the ill-nourished stomachs of phthisical patients; and there can be little doubt that, if we knew the locality of the different functions of the brain, and were capable of inspecting its organs during life, we should find this temporary and partial excitement characterized by local erethism of the tortuous vessels of the pia-mater. It is one indication of the small share which inflammatory processes have in the production of mental disease, that the partial hyperæmias to which the atrophied brain is peculiarly liable never result in true inflammation.

Insanity by Sympathy.—That the organ of the mind is thrown into diseased action by sympathy with, that is, by suffering with, other diseased or injured parts, is scarcely less certain, than that the stomach, the heart, or the spinal marrow, are so affected. The *modus operandi* of this cause of disease, is by no means clearly intelligible, either in relation to the brain, or to other organs; the explanations usually offered being little more than diversified verbal formularies of the fact. Thus, when we say, that the irritation of the cervix uteri is reflected upon the stomach, occasioning vomiting and distress in that organ, we come no nearer to an explanation of the mode of action, than when we say, that the stomach sympathizes with, or suffers in conjunction with, or in consequence of, irritation of the organ first affected. And, in like manner, when we say, that the brain suffers sympathetically with the uterus or stomach, we use a mere verbal formula for the colligation of two facts, with the intimate nature of whose connection we are wholly unacquainted. The knowledge which we actually possess on this subject, may, in general terms, be thus stated: the most important organs of the body are liable to be thrown into states of functional disturbance by irritation or injury of other, and frequently of distant, parts. The liability to this disturbance depends, in the first place, upon what is called constitutional irritability, or a state of the system in which slight causes of nervous action produce great effects; and, in the second place, upon the intimate connection of the organ secondarily affected with the nervous system, and its liability to be

thrown into disorder by any alteration or disturbance in the state of that system. Any premature attempts to explain this important pathological fact, by hypotheses respecting nervous currents, or the exhaustion of nervous power, seem at present rather likely to obscure than elucidate the matter. We may, however, come one step nearer to the view of the fact, by considering all sympathetic disturbance as taking place in the nervous system itself; and in viewing the functional disturbance of secreting and other organs, as merely the expression of abnormal states of the nerves in those organs. Strictly speaking, therefore, sympathetic vomiting or palpitation, is as purely a nervous phenomenon as loss of consciousness or convulsions; and the latter as mental excitement or delusion.

In early life the cerebro-mental functions are more intimately connected with those of the spinal system, than at subsequent periods, and distant irritations are more frequent and efficient causes of mental disturbance in the infant than in the adult. Delirium and coma are, in children, frequently produced by intestinal irritation. In the adult, in comparison with convulsions, delirium is so rarely a consequence of simple irritation, that it furnishes one strong proof that the brain proper exercises its functions with great independence of the excito-motory or spinal system. The most frequent and unquestionable instances of cerebral disturbance from distant irritation or sympathy, are afforded in epilepsy and hysteria. In both of these diseases, the paroxysm is compounded of disturbance both of the cerebral and spinal functions; but during the interval, cerebral disturbance alone is frequently present, and in the paroxysm itself it is never wanting. In epilepsy, especially, is this the case; for loss of consciousness, which is the primary and leading feature of the paroxysm, is the most serious and profound indication of cerebral disturbance, no less, in fact, than the temporary abnegation of all cerebral function. In hysteria, loss of consciousness is of less certain occurrence, although sometimes it is doubtless complete. In the interval of hysteria, however, cerebral disturbance is not less marked than in epilepsy. The emotions are perverted, and even delirium is by no means uncommon. Now both of these diseases are frequently but the expression of sympathy with irritation of distant parts of the nervous system. The one is produced by irritation of the nerves of the uterus and its appendages, and the other by the irritation of almost any portion of the peripheral nerves, by worms in the intestines, renal calculus, painful injuries, and diseases of the limbs, &c.

Therefore these diseases present unquestionable instances of mental disturbance, occasioned by sympathy of the brain with irritation of the distant nerves; of the central organ of the system, suffering in its noblest functions, in sympathy with some fibres of its peripheral extension.

The most probable explanation of these sympathetic disorders is, that injury to one part of the nervous system interferes with the processes of secondary nutrition taking place in other parts. The rapidity with which they occur, may, at first sight, seem adverse to this view; for instance in the case related by Dr. Gooch: "Dr. Denman passed a ligature round a polypus of the fundus of the uterus; as soon as he tightened it, he produced pain and vomiting. As soon as the ligature was slackened, the pain ceased; but whenever he attempted to tighten it, the pain and vomiting returned. The ligature was left on, but loose. The patient died about six weeks afterwards, and on opening the body, it was found that the uterus was inverted, and that the ligature had included the inverted portion." Sympathetic disturbance of the functions of the brain are, in some instances, scarcely less rapidly occasioned, or capable of receiving more immediate relief. Thus the irritation of a cutting tooth, will sometimes produce in a child, delirium and coma; and the removal of the irritation, by incision of the inflamed gum, will remove the symptoms almost as speedily as in the example above quoted. But when it is considered that the processes of secondary nutrition are those upon which the functions of all organs immediately depend, and that any interference with these processes must necessarily and immediately disturb the normal course of the functions, the short interval which is frequently observed to exist between the production of irritation and its sympathetic consequences, will present no difficulty to the theory which explains the latter in the manner here suggested. In our present state of ignorance of the manner in which influences are communicated from one part of the nervous system to other parts, it is impossible to explain how the processes of secondary nutrition in the nervous structure are interfered with in distant parts thereof. But this difficulty scarcely diminishes the probability that the explanation offered is the true one; and, indeed, only presents one of those imperfect links in reasoning, which the immaturity of physiological science renders of such constant occurrence in all departments of medical science. The operation of remedies is consistent with this view of sympathetic disturbance, since those narcotic

substances which retard the processes of waste and repair in the nervous system, afford the most efficient means of preventing the nervous function from suffering in consequence of peripheral nervous injury. Moreover, this view of pathological sympathy, is consistent with the only rational view of physiological sympathy. Secretions are the result of secondary nutrition. Many secretions are normally excited by the irritation of nerves more or less distant; that of the mamma, for instance, of the testis, and to some extent, of the gastric glands. Here then, at least, are processes of secondary nutrition energetically influenced by the irritation of distant nerves. It may be doubted whether the application of this argument can be extended to the functions of the brain. It has, indeed, been affirmed that the organ of alimentativeness or of amativeness is excited to functional activity—that is, a quicker process of secondary nutrition—by irritation of peripheral nerves. But what central organ is excited to desire the heat of a fire, by the painful impression of cold? or the luxury of repose, by the not less painful sense of fatigue? There is scarcely a separate organ for each of the many wants and desires which nature, or still more imperious habit, has impressed upon us. The desire of alcohol, perhaps, comes under the alimentative head; but the desire of opium and tobacco is not less urgent in those habituated to their use.

The organs of the brain are far less under the influence of the peripheral nerves, than are the periodic glands. A man may be as hungry as a famished wolf, without thinking of food. Loud sounds may strike upon the waking ear, or vivid and remarkable objects upon the retina, without exciting attention, if the mind is deeply absorbed in other matters. Nevertheless, the mind may and constantly does act in sympathy with the state of the peripheral nerves; and the normal waste and repair of the brain is constantly, although not solely, influenced by the impressions made upon the nerves of general, special, and functional sense. This independence of the brain upon those nervous irritations and impressions,—which doubtless impart to it the first stimulus to functional activity, but which subsequently exercise a permissive, rather than an imperatorial influence,—this independence was needful for the preservation of mental health. The brain has its own laws, and is no abject dependent upon the sensations. Had it been otherwise, sanity would scarcely have been possible, and man would have been the puppet of every mean circumstance, the reasoning automaton of wind and weather. The moral

law could for him have had no existence; and his thoughts, feelings, and actions, must have followed as the necessary consequence of the latest sensory impressions. Sensations are, in the first instance, needful to excite the mental functions into activity. Without the stimulus of sense, the infant cerebrum would remain devoid of ideas and emotions, an inert mass like a lung, perfect in structure, but into which air has never been admitted. But once excited to action and supplied with ideas, the brain is no longer dependent upon the organs of sense. It can act without them or against them, employing its energies upon the provision of ideas furnished by memory, and by its own emotional and instinctive habits.

Pathology of Monomania.—Every one conversant with the phenomena of insanity, is aware that there are patients in whom the aberrations from mental soundness are limited in the range of objects to which they apply, and in the range of subjective faculties which they implicate. In many instances of this kind, an enduring perversion of the modes of thought, the foundations of belief, and the workings of emotions on one, or at least a few objects, are the well-recognized symptoms of that form of disease which systematic writers treat of under the head of Monomania. It would be incorrect to say, that in the purest cases of monomania none of the faculties are weakened; since the simplest hallucination or delusion proves a want of healthy energy in the perception or the judgment. But as a whole, and outside the morbid subject of opinion and feeling, the mind is not weakened. Moreover, the general health of such patients is excellent; and if they die of any acute intercurrent disease, no pathological appearances are observed in the brain. To account for the perverted opinions and emotions of such patients upon the principles advocated in these pages, is a more difficult task than in the more numerous cases in which existent pathological change can be demonstrated in the cerebral organ itself, or reasonably inferred from the accompanying symptoms. Considering the vigorous and healthy activity of the mental functions most implicated in monomania, on all subjects outside the circle of delusive opinion; considering the unimpaired state of the bodily health, so frequent in these cases; and lastly, considering the absence of pathological appearances in the brain after death; it is impossible to attribute the mental phenomena to active processes of disease existing in the cerebral organs. But, inasmuch as all perverted function is dependent upon abnormal states of the material organ; inasmuch as many instances of the kind under consideration

originate in the ordinary causes of morbid change, and are accompanied during the early part of their course by the ordinary symptoms of cerebral disease, and that they sometimes, though rarely, give way under the influence of time and moral treatment: it is certain that these functional perversions are dependent upon abnormal states of their organ; but which it is difficult to recognize as pathological, however they may deviate from the standard of structural perfection. The only rational explanation of which these conditions of functional perversion with apparent health of the organism appear capable, is that afforded by the establishment of a habit of cell-growth and nutrition in the mould or type impressed by a previous state of diseased action.

A diseased state of the bloodvessels of the organ establishes a certain irregularity in its cell-development, and impresses upon the intimate structure of the organ an abnormal habit of nutrition, which endures after the pathological factors have been removed.

The physiological habit or constitution of the whole body is frequently altered by an attack of acute zymotic disease, which has, nevertheless, left behind it no legacy of determinate pathological change.

That which takes place in the body at large, is by no means uncommon in its most important organs; and an irregular habit of functional activity is a frequent legacy of disease in the stomach, kidneys, and uterus. This habit depends upon a peculiar arrangement of cells, or mode of cell-growth, impressed by diseased processes, and continuing in the same mould or type after these processes have ceased.

This explanation of diseased function arising from physiological growth, taking place in a pathological mould or type, has been admirably elucidated in Mr. Paget's second lecture on "Surgical Pathology." He says:

"The last condition which I mention as essential to healthy nutrition, is a healthy state of the part to be nourished."

"This is indeed involved in the very idea of assimilation which is accomplished in the formative process, wherein the materials are supposed to be made like to the structures among which they are deposited; for unless the type be good the anti-type cannot be."

"When any part or constituent of the blood has been injured or diseased, its unhealthy state will interfere with its nutrition, long after the immediate effects of the injury or disease have passed away.

Just as in healthy parts, the formative process exactly assimilates the new materials to the old, so does it in diseased parts; the new-formed blood and tissues take the likeness of the old ones in all their peculiarities, whether normal or abnormal; and hence the healthy state of the part to be nourished may be said to be essential to the healthy process of nutrition."

"After any injury or disease by which the structure of a part is impaired, we find the altered structure, whether an induration, a cicatrix, or any other, as it were, perpetuated by assimilation. It is not that an unhealthy process continues; the result is due to the process of exact assimilation, operating in a part of which the structure has been changed; the same process which once preserved the healthy state maintains the now diseased one."

"Yet, though this increase and persistence of the morbid structure be the general and larger rule, another within it is to be remembered; namely, that, in these structures, there is usually (especially in youth) a tendency towards the healthy state. Hence, cicatrices, after long endurance, and even much increase, may, as it is said, wear out; and thickenings and indurations of parts may give way, and all again become pliant and elastic."

"I can hardly doubt that herein is the solution of what has been made a hindrance to the reception of the whole truth concerning the connection of an immaterial mind with the brain. When the brain is said to be essential, as the organ or instrument of the mind in its relations with the external world, not only to the perception of sensations, but to the subsequent intellectual acts, and especially to the memory of things which have been the objects of sense, it is asked, How can the brain be the organ of memory, when you suppose its substance to be ever changing? Or, how is it that your assumed nutritive change of all the particles of the brain, is not as destructive of all memory and knowledge of sensuous things, as the sudden destruction by some great injury is? The answer is, because of the exactness of assimilation accomplished in the formative process. The effect once produced by an impression on the brain, whether in perception or intellectual act, is fixed and there retained; because the part, be it what it may, which has been thereby changed, is exactly represented in the part which, in the course of nutrition, succeeds to it. Thus, in the recollection of sensuous things, the mind refers to a brain, in which are retained the effects, or rather the likenesses, of changes that past impressions and intellectual acts had made. As, n some way passing far our knowledge, the mind perceived, and took

cognizance of, the change made by the first impression of an object acting through the sense-organs on the brain; so afterwards it perceives and recognizes the likeness of that change in the parts inserted in the process of nutrition."

Mr. Paget thus supplies arguments for a strictly cerebral view of mental power, which go deep to the root of the matter. If he repudiates the conclusions to which his reasoning necessarily tends, it may be owing to some lack of confidence in his audience. He may think that to teach the identity of mind and of cerebral function, is mental food too strong for the College of Surgeons. As Mephisto exclaims:

> "Das Beste das du wissen kannst
> Darfst du den Buben doch nicht sagen."

But his teaching will strengthen the mental digestion, and after a while stronger diet may be ventured upon. Is physiology never to be freed from the incubus of a supposed tendency to atheistic opinions? It has, indeed, been unfortunate, that this beautiful science has found some of its most diligent cultivators among men of such opinions, who have perverted its truths to the support of their impious sophisms. But, at the present day, Atheism, and its twin sister, Pantheism, have their stronghold among the anti-physiological spiritualists, while the great hope of the Christian in a future life, and the basis of his faith in a personal God, are defended, even by the ablest divines, upon physical grounds. (See the Rev. Isaac Taylor's "Physical Theory of a Future State of Existence.")

All that Mr. Paget says, respecting the physiological growth of brain upon the pathological type of disordered sensation, will fully apply to the same growth on the type of disordered emotion; and his views afford an admirable basis of the only rational explanation of partial insanity occurring in persons in whom, during life, there are no physical phenomena of diseased brain, and in whom, after death, there are no pathological appearances in the organ of mind.

To resume—the theory of partial insanity, without appreciable change of the brain, is as follows: When the disease first exists, it is attended by pathological states of the cerebral vessels. A morbid condition of the cerebral organization is occasioned, attended by the phenomena of insanity. After a short time, the vessels recover their tone, the brain is nourished, and its size maintained as a whole. But the original balance of its organs is not regained; their nutrition having been impressed in the type or mould of their diseased state.

Perhaps some of the cerebral organs encroach on others by their actual bulk; undoubtedly, some of them overbear others by their greater activity. The result is chronic mental disease, of a nature which leaves behind no pathological appearance.

Account of Special Pathological Changes.—It has been unfortunate for the cause of cerebral pathology, that those writers who have devoted much care and attention to the observation of cerebral changes presented in post-mortem examinations, have either lacked the desire or the opportunity to make themselves acquainted with the mental phenomena which had preceded death. The careful and minute detail of appearances observed in the brains of persons supposed to have died insane, disconnected from any account of the symptoms which existed during life, are of comparatively little value, in the present imperfect state of pathological science. A few fossil teeth and bones enable Professor Owen to reconstruct the probable similitude of an extinct animal; but the science of pathological anatomy has attained far less certitude than that of comparative anatomy; and even the able descriptions of the post-mortem examinations made in Bethlem by Dr. Webster, have their practical value diminished from the want of some account of the symptoms which in each case preceded death. The descriptions of the older anatomists, Morgagni, Bonetus, and others, have the same defect; a defect, indeed, of which Morgagni was fully sensible, and of which he offers an explanation, or rather an excuse, in the fact that the medical men who had observed the cases, during life, frequently did not know whether to call the patients melancholiacs or maniacs; and that, indeed, "melancholia is so nealy allied to mania, that the diseases frequently alternate, and pass into one another; so that you frequently see physicians in doubt whether they should call a patient a melancholiac or a maniac, taciturnity and fear alternating with audacity in the same patient; on which account, when I have asked under what kind of delirium the insane people have labored whose heads I was about to dissect, I have had the more patience in receiving answers which were frequently ambiguous, and sometimes antagonistic to each other, yet which were, perhaps, true in the long course of the insanity."—(*De Sedibus et Causis Morborum*, Epist. viii.)

Of the thirteen examinations recorded, Morgagni himself made eleven; his pupils made one; and the other one was made by Valsalva. The appearances noted by them, in this small number of dissections, include a large part of the morbid appearances which ex-

tended observation, and the advantages derived by later anatomists from the instructions of those preceding them, have been able to distinguish. In one or other of the cases, the dura mater was found thickened and adherent to the cranium; the vessels of the meninges distended with dark blood; serum was found between the meshes of the pia mater, sometimes in large quantity; there were also air-bubbles in the vessels of the pia mater; the consistence of the brain altered—sometimes soft, sometimes more or less hard; discoloration of the medullary substance, from distension of its bloodvessels; serum in the ventricles, sometimes clear, sometimes turbid; the choroid plexus sometimes injected, in others containing cysts; the vessels of the brain sometimes distended with black and fluid blood; in one instance the coats of the arteries were unusually firm (query atheromatous). In one instance a fibrinous clot occupied the whole of the longitudinal sinus. This occurred in a young woman who died with general prostration of the vital powers. It is probably the earliest instance recorded of this appearance, and is interesting in connection with Dr. C. B. Williams's views on the formation of fibrinous clots in the cerebral sinuses of asthenic subjects.

Of the thirteen insane persons dissected by Morgagni, it is remarkable that no less than four came to an untimely end. One threw himself out of a window in the night, and was killed. One was tied by the throat by his keeper, so that he was strangled. One was starved to death during severe weather; and one, after recovery from insanity, died from inflammation of the intestines, occasioned by a finishing dose of black hellebore.

Morgagni concluded that the cause of insanity existed, in many cases, in the morbid changes of the pineal gland, and in many others in an induration of the brain. We are informed that, in his examinations, he was in the habit of removing the head from the trunk, for the sake of convenience, before he examined the brain. This indicates forcibly the difference between the accuracy and delicacy of the examinations made by the greatest of the old pathologists and those of the present day. An examination conducted after this fashion would be little likely to offer evidence of moderate serous effusions, or the less obvious conditions of hyperæmia. The pathological records of insanity made by other anatomists of the last century are still less marked by exact observation than those of Morgagni, and are, perhaps, more interesting to the medical antiquary than to the modern pathologist.

A brief reference to them may, however, be instructive, as showing that the changes which still most readily catch the attention of observers were noted.

Bonetus observed hypertrophy of the brain; obliteration of the sutures; the dura mater adherent to the cranium, and turgid with blood; the pia mater turgid with blood, and not insinuated between the convolutions; water in the ventricles and other parts of the brain, in large quantity; the substance of the brain marked with a black spot, and sometimes with an infinite number of bloody spots, especially on pressing it—in one case, dry, hard, and friable.

Boerhaave mentions, that the brain of maniacs has been found dry, hard and friable, and of a yellow color.

Haller classified the observations made by others upon the brains of insane and phrenitic persons, and concludes thus: "From these few observations, for which we are chiefly indebted to Morgagni, but little certainty can be derived; since it not only frequently happens that we can discover no disorder in the bodies of maniacs, or even of such as have been totally insensible; but where we do, we are as far from being able to perceive a uniform connection between any one disorder of the mind and some corresponding preternatural state of the contents of the skull, that the very same appearances are exhibited after those most opposite disorders, idiotism and frenzy; which last seeming inconsistency may possibly appear less extraordinary if we consider the symptoms of drunkenness and frenzy, in which we may observe that the very same cause produces, at first delirium, and afterwards, as the disorder advances, drowsiness and insensible stupor. This, however, seems evident, that in the disorders of the mind the brain and its connections are usually affected; and *when, in some rare instances, we can discover no disease of these parts, we may conclude, either that it is seated in their very elementary particles, or has not been sought for with sufficient patience and attention.*"—(Elements of Physiology.)

Greding, in 216 cases, found the skull unusually thick in 167 cases; the dura mater adherent to the cranium in 107 cases; the pia mater thickened and opaque in 86 out of 100 cases of mania; and beset with small spongy bodies in 92 out of 100 cases. He observed effusions of serum between the dura and pia mater in 120 out of 216 cases of insanity, and in 58 out of 100 maniacal cases; the lateral ventricles were distended in 52 cases. The choroid plexus

was found healthy in only 16 out of 216 cases of insanity; and it was thickened and full of hydatids in 96 out of 100 maniacs.

These records will convey strongly the impression, that however exact the observations of this pathologist might have been, he did not interpret the morbid appearances as we are accustomed to do at the present day. Effusions of serum between the dura mater and the pia mater, and diseased conditions of the choroid plexus, are conditions which need some description to be intelligible.

Meckel remarked the increased density of the cerebral substance in the bodies of the insane.

Sœmmering and Arnold confirmed this observation; and the latter expressed his conviction that insanity was occasioned by the increased density of the cerebral substance, and of those parts of the brain by means of which the soul is connected with the body.

Portal declared that all mental diseases were the effects of morbid alterations in the brain or spinal cord. He enumerates a great number of alterations, but with so much looseness that little reliance can be placed upon them. He enunciates, however, on this subject, the following sound and philosophical doctrine, which, to the present day, may well serve as a text for works in this difficult and obscure department of pathology: "Morbid alteration in the brain or spinal marrow has been so constantly observed, that I should greatly prefer to doubt the sufficiency of my senses, if I should not at any time discover any morbid change in the brain, than to believe that mental disease could exist without any physical disorder in this viscus, or in one or other of its appurtenances."

Pinel had no confidence in the revelations of pathological anatomy. In the preface to his excellent work on "Mental Alienation," referring to the labors of Greding, he remarks: "But although one must eulogize his efforts to throw new light upon the organic affections of the insane, is it possible to establish any relation between the physical appearances manifested after death, and the lesions of intellectual function which have been observed during life? What analogous varieties does not one find in the skull and brain of persons who have never shown any sign of aberration of mind! And, therefore, how can we succeed in fixing the limits which separate that which is normal from that which must be held to be the result of disease?" (p. xx.)

In the body of his work (p. 142), he refers the primitive seat of mania "to the region of the stomach and intestines, from whence,

as from a centre, the disorder of the understanding is propagated by a species of irradiation. A feeling of constriction, &c., manifests itself in these parts, soon followed by a disorder and trouble of ideas."

Well might Gall exclaim, in reference to these opinions of the great reformer of the treatment of insanity, and to other opinions, scarcely more philosophical, on the same point, of Pinel's eminent pupil and successor, Esquirol: "It is a sad business that, in writing for men who ought to have the clearest ideas upon mental disease, it should be necessary to commence by establishing the true seat of mania" (tome ii, p. 223); and he adds that M. Foderé actually undertakes to prove that the brain is neither the seat of inclination, instinct, or mental power, much less of mania or delirium.

In justice to Pinel it should be remarked, that, however mistaken his views upon the pathology of insanity may have been, they had at least the merit of referring a bodily disease to a bodily origin. In the preface to the second edition of his work, he thus wisely expresses an emphatic condemnation of metaphysical theories on this point: "The most difficult part of natural history is, without doubt, the art of well observing internal diseases, and of distinguishing them by their proper characters. But mental alienation presents new and diverse difficulties and obstacles to surmount, either in the unusual gestures and tumultuous agitations which it occasions, or in a kind of disordered and incoherent chatter, or in a repulsive or savage exterior. If one desires to account for the phenomena observed, one has to fear another rock,—that of intermingling metaphysical discussions and divagations of ideology with a science of facts."

Esquirol, the pupil of Pinel, adhered with affectionate pertinacity to the opinions of his great master. He states, in the "Dictionnaire des Sciences Médicales," that the principal changes observed in the brains of insane persons are—"The cranium frequently thick, sometimes eburnated, sometimes with thickness of the diplöe, very frequently injected, more rarely thin, its thickness variable in different regions; the dura mater adherent either to the vault or to the base of the cranium, sometimes thickened, frequently its vessels developed and injected; the internal face of the dura mater clothed with a membraniform layer, as if the fibrine of effused blood had extended itself in the form of a membrane. Almost always between the arachnoid and the pia mater serous or albuminous effusions are found, which cover, and almost efface the convolutions. Effusions at the base of the brain are common; they exist almost always in the ventricles."

In M. Esquirol's great work, "Des Maladies Mentales," published so recently as 1838, his opinions on pathology are considerably modified. Referring to the case of a recent maniac, who was killed by one of her companions, and in whose body he and his pupils were surprised to find no lesions of the brain or its meninges, he declares, that "pathological anatomy, in spite of the very important labors of MM. Foville, Calmeil, Bayle, Guislain, &c., has not been able to make us acquainted with the organic cause of mania. Thirty years ago, I would willingly have written upon the pathological cause of madness. At the present day I would not attempt a labor so difficult—so much of incertitude and contradiction is there in the results of the necroscopy of the insane made up to this time. But I may add, that modern researches permit us to hope for ideas more positive, more clear, and more satisfactory."

M. Foville describes in acute cases injection of the pia mater existing in a greater or less extent, according to the degree of inflammatory action in the cortical substance. In chronic cases, he describes opacity and thickness of the membranes, adhesion of the membranes to each other, granulations of the pia mater, and false membranes. The gray substance, he asserts, is, in acute cases, intensely red on its surface and in its substance. This redness is most vivid in the frontal and vertical region. The redness is not uniform, but mottled and diversified with spots of a violet hue, and with minute extravasations of blood. He describes the consistence of the cortical layer underneath its surface to be diminished, the surface itself being somewhat indurated. In acute cases, the pia mater, he says, is not adherent to the cortical substance, while in chronic cases it is frequently so; and in this fact he sees an important distinction, capable of explaining the incurability of chronic mental disease. In chronic cases, the superficial or outer layer of the cortical substance becomes indurated, and capable of being separated from the inner layer, which is softened and mammillated; the outer layer is harder, the inner layer is softer; the outer layer browner, and frequently paler, the inner layer redder than natural. Atrophy of the convolutions he also describes as frequent; and this may be confined to the cortical substance, the surface of which is marked with irregular depressions filled with serum. The gray substance is sometimes softened throughout its thickness, and changed to a brownish color; the softening of the gray matter is sometimes so great that it may be washed off the white matter (which is sometimes harder than usual) by pouring water upon it.

The medullary substance is frequently injected, showing numerous bloody points when divided; sometimes it is more uniformly discolored, and has a purplish hue; sometimes it becomes exceedingly white and indurated; sometimes, however, when indurated, it has a yellowish or gray tinge. Induration of the medullary substance is attributed by M. Foville to the adhesion with each other of the several planes of the fibres, of which he believes the mass of the white substance to be composed, and which are united to each other by fine cellular tissue.

These observations of M. Foville, made partly at the Salpêtrière and partly at St. Yon, are highly important and instructive. They agree, in many respects, as we shall hereafter see, with the precise and admirable researches of M. Parchappe; and although in some respects it may be difficult to verify their correctness in the post-mortem rooms of institutions where but a few cases are examined, it is certain that the leading features of the pathological change in the substance of the brain, which were first indicated by M. Foville, are to a greater or less extent recognizable in a great number of bodies, and amply deserve full and patient investigation, in order to establish their nature and their connection with the various forms of insanity.

The researches of Bayle and of Calmeil have reference rather to a particular form of insanity, namely, general paralysis, than to the pathology of mental disease at large. M. Bayle attributes insanity to inflammatory irritation of the membranes of the brain, and paralysis accompanied by loss of mental power (dementia), to pressure exerted upon the brain by effusions resulting from this inflammatory state.

M. Calmeil attributes insanity in general to a chronic inflammation of the brain, and general paralysis in particular to chronic inflammation, followed by induration, of the fibrous substance.

M. Lèlut, who published in 1836 his work upon "The Value of Cerebral Alterations in Acute Delirium and Insanity," came to conclusions opposed to those of the author last mentioned. He sums up the result of his researches in the following words:

"1st. Numerous alterations of the brain and its envelopes are met with in delirium and insanity, especially in extreme forms of the latter; but these alterations are neither constant nor exclusive.

"2dly. Hence it must be allowed that the more or less local and coarse alterations in the skull, the brain, and its membranes, cannot be held to be the proximate causes of insanity. They are, doubtless,

capable of existing with a delirious or insane condition, but they do not constitute this condition; and frequently they are only the exaggeration, the effect, or the transformation of it.

"3dly. That which may be given as the nearest approach to the proximate cause of delirium, and to the most acute form of insanity, is inflammatory lesion of the brain and its tunics. But this alteration neither does nor can constitute the state which is anterior to it, and may even destroy life without producing it.

"4thly. The conditions of the brain which approach the most closely to the proximate cause of the chronic forms of mental alienation, with or without impairment of motion, are without doubt chronic inflammation of the substance and of the membranes of the brain, its atrophy and induration, which may be accompanied by variations in its specific gravity. But yet these alterations are not the proximate cause of these forms of insanity, because they are neither constant nor exclusive, and they do not make themselves apparent except in an advanced period of the disease."

The arguments by which M. Lèlut arrives at these conclusions appear almost as shifting as the organic lesions which are, and are not, according to him, the cause or the condition of insanity. Inflammatory lesions of the brain are, according to him, very near being the cause of acute insanity; but they are not the cause, because insanity may destroy life without producing them. Chronic inflammations also approach themselves closely to the cause of chronic insanity (les conditions du cerveau qui si rapproche le plus de leur cause prochaine); but yet they are not the proximate cause, because they only make themselves obvious after a while.

Some years subsequently to the publication of M. Lèlut's book, another eminent French physician, M. Leuret, published a work on the same subject. The title of this work, "The Moral Treatment of Insanity," would lead us to expect views adverse to the somatic origin of mental disease; and such, in fact, is the case. Physicians who treat insanity with moral and penal remedies are not likely to regard its cause as a pathological condition of the organism; and, on the other hand, physicians who refuse to regard insanity as a bodily disease, and who interpret its phenomena as manifestations of a fermentation in the spiritual essence, easily and logically persuade themselves that sharp penal remedies are useful and justifiable in its treatment.

M. Leuret certainly combats the somatic theory, and the patho-

logical facts upon which it rests, with a logical acumen contrasting very strongly with the manner of the author last mentioned, and even of M. Esquirol. While we entirely dissent from his conclusions, we are glad to avail ourselves of his assistance to ascertain the weak points of that doctrine which attributes insanity to cerebral change alone; a doctrine of the truth of which we are convinced, but the proofs of which, it would be vain to deny, require to be multiplied, confirmed, and arranged, with a care and precision which they have not yet received. M. Leuret believes that he has established the following positions:

1st. That the authors who believe it possible to establish an anatomical change as the cause of insanity differ greatly among themselves; thus Greding asserted that thickness of the bones of the cranium occurs in 77 out of 100 patients, while Haslam found this condition in 10 only out of 100 patients. Hyperæmia of the brain is recorded by Parchappe in 43 cases out of 100; and by Bertoleni only in 14 out of 100.

2dly. That some of the cerebral alterations (to which insanity is attributed) are by no means well established. Thus, in the cases which are cited of hypertrophy in the brain, it ought to have been established that this was not owing to fulness of its vessels, or to the presence of a serosity in its tissue. These observations have not been made. Again, that which is called a dense brain, or a soft brain, expresses nothing distinctly, except in extreme cases.

3dly. That the value attributed to certain alterations is deduced from a number of observations by far too small, so that one result frequently invalidates another; thus M. Parchappe has deduced the average normal weight of the healthy brain from thirteen observations on men, and nine upon women, and upon this average he establishes the rule for atrophy of the brain. This average is evidently too small, and indeed M. Parchappe gives different averages elsewhere.

4thly. That the pathological alterations referred to insanity are met with in patients who have never been insane.

5thly. That all authors confess that there are insane persons in whose brains no pathological changes are found.

6thly. That the lesions which are frequently met with among the insane, to which any value can be attached, are only met with in cases in which insanity has been complicated with paralysis; and that, in order to decide if any lesion is the cause of insanity, it is at least necessary to find it in a case of simple mental aberration, in which there has been no affection of motion or sensibility.

That so able an opponent of the somatic theory as M. Leuret undoubtedly is, should have been compelled to rest his argument upon no better foundations than those above named, appears to afford strong presumptive evidence of the truth of that theory. We shall make some brief comments upon each of his objections.

1st. That authors should differ so greatly in their numerical estimates, as M. Leuret has shown them to have done, can prove no more than that authors have been inexact in their observations, or careless and untrustworthy in recording them. The objection may to some extent be valid against the value of statistics in pathological science. It may show that one author counted slight appearances of change, while another only recorded extreme instances; but it can in no way detract from the value of the fact, that all the authors cited did observe the pathological changes they record, in a certain number of cases.

2dly. That pathological changes of the brain need to be observed with greater exactness than heretofore, is undoubtedly true. They have, however, been observed with greater exactitude than M. Leuret admits; for instance, in the case he cites, hypertrophy, it is well established that in this rare condition the brain is paler and drier than usual, and that the increase in its volume cannot be attributed to fulness of the vessels or serous infiltration.

3dly. This objection again applies to the statistical method of proof, as it is too frequently used. It applies, however, to the abuse of this method, in all departments of pathological science. Doubtless, those who count observations without estimating them as recommended by Morgagni, misuse the numerical method in their deductions upon all diseases, insanity included.

4thly. If M. Leuret can show that serious pathological change in the cortical substance of the convolutions has existed in persons whose mental functions have never been affected, he will go far to upset the somatic nature of insanity; but this he has not done, nor, in our opinion, is he likely to do. That some pathological changes which are observed in insane persons, but which are non-essential to insanity, should occur also in persons who have always been sane, is a fact of no value in the present discussion.

5thly. That in the brains of some insane persons no pathological changes are observed, is undeniable; but would it not, in these cases, be more philosophical to doubt with M. Portal, the sufficiency of our powers of observation, than to use it as an argument against the

existence of all pathological change of an organ whose functions are perverted, but whose structure is not obviously injured? Is M. Leuret able to point out the pathological changes which cause neuralgia, tetanus, chorea, or hysteria, or that by which life is destroyed by a blow on the epigastrium, or by concussion of the brain. Deficient information should lead us to seek for more light, and should by no means induce us to veil that which we possess.

6thly. M. Leuret certainly mistakes the fact, when he affirms that cerebral lesions are only found in those who are paralyzed. The lesions peculiar to the different forms of ordinary paralysis are by no means well ascertained, and yet no one doubts that paralysis is always occasioned by lesion of the nervous system; while the conditions of the brain which are found in general paralysis are not as yet better understood than those which occur in simple mania or acute delirium. Moreover, whatever doubt may hang over the primary pathological changes which attend the earlier stages of simple mental aberration, there can be no doubt whatever that the secondary conditions which attend the chronic stages of simple insanity, uncomplicated with paralysis, are obvious and undeniable in degraded nutrition and atrophy of the cerebral organ.

We have stated M. Leuret's objections, and have answered them at some length; for we must pay him the compliment of considering him the most formidable antagonist of the pathological view of insanity. He has stated his reasons for the opinions he entertains, with precision and candor, and he has thus afforded an opportunity of answering them, an opportunity which would be sought in vain in the crude opinions upon this point expressed by Pinel, and even by Esquirol and Georget.

M. Guislain, the able leader of psychology in Belgium, classes the lesions of the brain found in insanity under nine heads: 1st, a state of sanguineous congestion of the meninges, the brain, or the two together; 2dly, a state of serous congestion of the above; 3dly, cerebral softening; 4thly, opacity and thickness of the arachnoid; 5thly, adhesions of the membranes to each other, or to the brain; 6thly, cerebral induration; 7thly, cerebral hypertrophy; 8thly, cerebral atrophy; 9thly, vices of conformation of the brain and of the skull.

These conditions are, he thinks, in a practical point of view, capable of being reduced to four fundamental alterations,—sanguineous congestion, serous congestion, softening, and induration. It is open to

doubt, however, whether the three latter of these alterations can be considered fundamental; and it is certain that the four do not include all the conditions which may be considered fundamental. He does not include those aberrations of nutrition known under the names of inflammation, atrophic, and anæmic.

That M. Guislain admits the existence of such conditions is abundantly evident from the pages that follow. At page 367, "Leçons Orales," tom. i, he attributes to the state of congestion, not only ecchymoses of the arachnoid and pia mater, but false membranes, and a red appearance of the arachnoid, "having the aspect of an inflamed conjunctiva."

Such an appearance, and especially the existence of false membranes, cannot be attributed to a state of congestion, and if they occur, should have induced this able physician to have admitted the inflammatory, as one of the fundamental states of the brain in insanity.

He estimates that, in one-fourth of the bodies of persons dying insane, there is a congestionary state of the encephalic mass; but he declares his opinion, that this proportion is far from that which obtains among the living insane, and that the majority of those who are cured have never had congestion of the head in a notable degree.

M. Guislain says, "The brain and its membranes may have been congested without the existence of a state which can be called inflammatory. If inflammation was always a condition of congestion, would one see the numerous cures which take place among sanguine and robust maniacs, who offer in the course of their disease those symptoms which one often considers to be inflammatory, and which are really only a vascular orgasm, and not a state of phlegmasia. Broussais himself felt this in giving to this condition the name of sub-inflammatory. It is an afflux of blood, which may in a manner be compared to that injection of the cheeks which accompanies shame and modesty; that injection which makes itself evident in the eyes, over the whole face, the neck, and even over the breast of a man agitated by violent anger."

It is evident, however, that a much more profound and serious change exists in the bloodvessels of the insane brain, than in the transitory blush of modesty or suffusion of passion. These states are physiological, and leave behind them no tendency to destructive change. The state of the congested brain in insanity is pathological, and tends to pass into a state of structural change, respecting the

wide deviation of which from a state of health there can be no doubt. If the congestion of insanity were of the character which M. Guislain attempts to attribute to it, insanity would be as transient as passion, or passion would be as dangerous as insanity.

M. Guislain has himself gone further than most writers on this point, in representing by means of woodcuts the microscopic appearances of change in the congestionary state of mania, in the fatty degeneration following mania, and in congestion with and without softening.

We have been unable to verify the accuracy of these representations, but we firmly believe that this want of success in recognizing the microscopic character of the cerebral changes which result from hyperæmic conditions of the brain, has for its sole cause the limits which bound our powers of observation, arising from the want of power in the organs of sense and their mechanical aids.

M. Parchappe.—The most careful investigations into the pathological anatomy of insanity, made in France, are, without doubt, those made by M. Parchappe, the present Inspector-General of Asylums in that country. His first work on the different alterations of the brain in insanity was published in 1838. M. Parchappe commences by admitting fully, "That there is no single pathological alteration which can be proved to exist in all cases of insanity; but there are three which have been found in the majority of cases. This is a result which might have been expected. The pathologists who have searched for one essential characteristic pathological change, might have saved themselves a deception. The point which one may reasonably hope to obtain is, to be able to distinguish among cases of mental disease those kinds which are characterized both by the constancy of the symptoms, and by that of pathological change." The uncertain existence of pathological alterations in insanity, and the occasional absence of all change, disprove, indeed, the theories of those who attribute insanity to some exclusive pathological condition of the brain,—for instance, to chronic meningitis, or to induration of the brain,—but they do not prove that these alterations are, as asserted by Esquirol, Leuret, and others, mere complications or consequences of the malady. The alterations which exist in simple inflammation of the brain and its membranes, are not those which are found in insanity. Those which are found may be distinguished into,—1st, those which may be considered accidental; 2d, those which, existing in other maladies, yet appear to play a part in the

production of insanity; and 3d, those which are believed to be essential to mental alienation. Among the first may be enumerated cerebral hemorrhages, partial softening of the white substance, disease of the cerebral arteries; and, among the second, thickening and opacity of the arachnoid, hyperæmia of the pia mater and of the brain, serous infiltration of the pia-mater, dropsy of the arachnoid cavity. In the important last division, M. Parchappe includes the following changes: subarachnoid ecchymosis, and a partial punctiform injection of the cortical surface, with or without softening, extended softening of the middle portion of the cortical substance, adherence of the pia mater to the surface of the brain; rose, lilac, and violet-colored discoloration of the cortical substance, loss of color of the cortical substance, atrophy of the convolutions, induration of the brain. M. Parchappe believes that he is able to establish the following classification of mental disease upon the pathological changes which he has observed. 1st. Monomania; in this form of insanity, no pathological change is found to exist in the brain, and the probable cause is to be sought in the organic predominance of some portion of the brain, in consequence of its size or activity. 2d. Acute Mania and Acute Melancholia; in these forms of insanity, the alterations found in the brain to a certain extent resemble those of inflammatory affections of the organ. They are hyperæmia of the pia mater and of the cortical substance, partial injections of the subarachnoid tissue, punctiform injection, and occasional softening of the cortical substance; it is rare that the meninges are found extensively thick and opaque. The above alterations are usually more decided in acute melancholia than in acute mania. In sympathetic mania, that is, in mania occasioned by the irritation of some part of the distal nervous system, no anatomical changes may be discovered if the examination is made during the early period of the disease; but after a while, the brain passes from the state of physiological excitement into that of pathological change, and then the above alterations may be expected to be found on examination. 3d. Simple chronic mania; in this form of insanity, the aspects of the brain are altogether different from those which prevail in the acute paralytic forms of insanity; they are—atrophy of the convolutions, with loss of color and induration of the cortical substance, or of the medullary substance, or of both; serous infiltration of the pia mater, and dropsy of the ventricles, connected with, and consequent upon, general atrophy of the brain. 4th. Paralytic insanity (general paralysis). In this the essential alteration consists

in softening of the middle layer of the cortical substance; very frequently, also, the pia mater is thickened, adherent, and infiltrated; in the acute form, the cortical substance is hyperæmic and deepened in color, and the pathological appearances of acute mania are present. In the chronic form, the cortical substance has lost color and become thin; atrophy of the convolutions, and the appearances of chronic mania are present. 5th. Epileptic insanity. In this the alterations resemble those of simple chronic mania.

In 1841, M. Parchappe published his "Theoretical and Practical Treatise upon Insanity," a work more fully devoted to necroscopic record than Andral's "Clinique," or Lallemand's "Letters." M. Parchappe attempts to establish his deductions by the numerical method; and in this we think he has fallen into an error: first, because the number of cases upon which he founds his averages are, under some heads, insufficient to establish a trustworthy average; and secondly, because he has, in several instances, adopted methods of comparison which are much open to objection. The manner in which he arrives at an estimate of cerebral atrophy is objectionable, on account of both of the reasons above given. He founds his estimate upon a comparison between the weight of the brain examined and the average weight of healthy brains. Now it is evident that, if the diseased brain was originally heavier than the average, a considerable atrophy might fail to be shown by a comparison of this kind. An atrophied brain, of large size, may still be heavier than the average of healthy brains.

M. Parchappe's average weight of the sane brain may have been deduced from average individuals; but he could make no selection of this kind for the other side of the comparison. The insane person whose brain has to be examined and compared, may have been a well-developed man, with all the organs above the average size, or with a brain originally large or small in comparison with the rest of his body. So true is the addition which Morgagni made to the dogma of Hoffman, "*Ars medica tota in observationibus.*" Morgagni wrote, "*sed perpendœ sunt non numerandœ observationes.*"

In the *resumé* upon thirty-eight autopsies of persons dying in the acute stage of mania and melancholia, M. Parchappe (p. 45) affirms the same principles which he has enunciated in his former work, especially the absence of any essential and exclusive encephalic alteration. He affirms, moreover, that these dissections prove the existence of an analogy as strong as possible, if not perfect, between the

cerebral alterations found after acute mania and those of acute melancholia; and therefore, he concludes, that the distinction between these two states is not justified upon pathological grounds.

The thirty-eight examinations afford the following *resumé:* In thirty-six the brain was the seat of hyperæmia, either in the periphery, its membranes, or its substance; in seven instances the hyperæmia was simple; in twenty-nine it assumed the form of subarachnoid ecchymoses; in twenty-three instances there were subarachnoid ecchymoses, with punctiform injection of the cerebral surface; and in seventeen of the latter there was also softening of this surface. Sixteen times the cortical substance was reddened in color. In one case there was no apparent encephalic alteration whatever; and in several the alterations were inconsiderable. It is needful, therefore, to admit that the pathological condition of acute insanity is of such a nature that it is possible for it to leave no post-mortem appearance. Taken singly, none of the alterations described can be held to express a pathological state of the brain which corresponds to the abnormal psychical manifestations; but, examined collectively, these alterations afford an idea of the pathological character which must be attributed to that state, namely, that of hyperæmia. This condition was only absent in two cases out of the whole thirty-eight; and it is very probable that hyperæmia also existed during life, even in the two cases in which there was no trace of it after death. The thickening of the meninges, and the superficial softening of the cortical substance, which are so frequently found, indicate that this hyperæmia is not that of simple but that of active congestion.

"A legitimate induction may, therefore, be derived from the facts, to the effect that there is usually, during life, an active sanguineous congestion of the brain coexisting with the symptomatic phenomena of acute insanity." "One may even recognize, up to a certain point, a relation between the intensity of the symptoms during life, and the extent of the alterations after death."

Of chronic insanity, M. Parchappe details the appearances of 122 cases, which may be summed up as follows: In seven instances there were no alterations, or almost none; in eleven instances the alterations were simply hyperæmic; in five the substances were softened; twice there was induration of the true cortical substance alone; eight times there was induration of the white substance alone; twenty times there was induration of the two substances; sixty-one times

there was atrophy of the cerebral convolutions; sixty-four times there was hyperæmia, which was simple in forty-six cases, and in eighteen combined with ecchymoses, and in two cases with injection and softening of the cortical substance. This substance was colored red five times. It was deprived of its [normal ?] color fifty-nine times.

It is evident, says M. Parchappe, from these facts, that there is no essential and characteristic pathological appearance in chronic insanity. There may be no trace of pathological change after death, or only the unimportant one of simple hyperæmia. But the alterations are remarkably different from those which belong to acute insanity. In the latter, the predominant alterations are hyperæmic conditions, with arachnoid ecchymoses, injection and softening of the cortical substance. In chronic insanity, the predominant alterations are atrophy of the convolutions, and induration of the two substances. "The symptomatic differences in the two forms of insanity correspond generally with the pathological differences in the organ of intelligence." In chronic insanity, the predominant state is pathologically opposed to the hyperæmic condition of acute insanity; and the atrophy of the convolutions, especially, expresses a movement of the plastic force opposed to that which represents active hyperæmia. "The predominant alterations in chronic insanity express, in general, a state of diminution of the plastic activity; a state diametrically opposed to that expressed by the predominant alteration in acute insanity, which has been shown to be active sanguineous congestion, representing the physiological principle at the highest point of plastic activity. And these conditions of the organism coincide with the psychical symptoms peculiar to the two forms of disease—which present two opposed dynamical states—the one in which psychical activity is in a plus, and the other in which it is in a minus condition."

M. Parchappe concludes his valuable treatise with a chapter upon the appearances of the healthy brain. From an early period of his investigations, he had instituted comparative examinations of sane and insane brains, having both before his eyes at the same moment. On this point he says:

"I have thus been able to assure myself how inexact is the assertion frequently made, that between two brains of this kind, it is absolutely impossible to distinguish that which belongs to insanity. The contrary assertion would be much nearer to the truth, especially

if one did not make it without some restriction. In regard to paralytic insanity, at least, it may be said, that the difference strikes the eye, and can only be mistaken by prejudice or inattention."

He sums up the characteristic appearances of the sane brain as follows: "Extreme tenuity and perfect transparence of the arachnoid, and of the pia mater. Absence of subarachnoid serous infiltration. The membranes may be detached from the convolutions without producing decortication. When the cortical substance is soft, and the membranes begin to become dry, it may happen, that, in circumscribed points, they detach with themselves flocculi, and even small plates of the cortical substance. The cortical substance is of a gray color, of which the shade varies a little in different individuals, and in the same individual in different parts of the thickness of the substance. To the naked eye the shade of the surface does not appear paler than that of the deeper parts. The internal portion is, perhaps, a little deeper in color, and between the two we can sometimes distinguish an intermediate shading, paler than either. The medullary substance is of a pure and striking whiteness. The consistence of both substances is considerable when the death has been recent and the temperature moderate. The white substance is rather more firm than the gray. The surface of the ventricular membrane is smooth and brilliant, sometimes offering very fine granulations. The cut surface of the white substance is sometimes dotted with a small number of red points. Under the influence of the air, the blood in the vessels becomes more brilliantly red, and the cortical substance takes on a rosy tint, which gradually becomes deeper, but which never attains the intensity which characterizes pathological alteration of color of this substance. The influence of time and a high temperature, produces softening and commencing putrefaction, and causes the detachment of flocculi with the membranes, like that produced by drying of the membranes from contact with air. The convolutions are pressed together, only offering space for imbedding the pia mater. When the membranes are removed they still touch, and if separated, they return to their apposition on account of their elasticity, and the anfractuosities efface themselves. The thickness of the cortical substance varies in the anterior lobes from two to three millimeters, and on the convexity, and at the base, from two and a half millimeters to five."

The eminent author we have here freely quoted, has done excellent service to the cause of a rational pathology of mental disease. He

has excluded all speculative hypothesis upon the nature of mind and its aberrations, and has set a worthy example to his successors in the careful and laborious manner in which he has observed and recorded the facts upon which alone any trustworthy knowledge in this, as in all other departments of science, can be founded. We are far from agreeing with all the conclusions at which M. Parchappe has arrived, but to the spirit of his inquiries, and to his general results, we give our hearty adherence. These results, however, require to be accepted with some limitations and exceptions; and, as we hope hereafter to prove, some additions to them must also be made, to present a correct general idea of mental pathology. It is, however, no small praise to an author to affirm, as may with truth be done of M. Parchappe, that no candid investigation, even into his errors and deficiencies, can be made, without advancing the science of which he treats.

The principal error into which M. Parchappe has fallen, is that of having made too abrupt a classification of insanity, into acute, and chronic. The phenomena of the disease by no means justify a distinction of this kind so sharp as to lead to M. Parchappe's assertion, that the two forms of the disease present pathological conditions essentially opposed to each other. Doubtless the pathological appearances presented in a typical case of each form will sometimes contrast with each other as remarkably as he insists; but a large proportion of cases of mania and melancholia are chronic from the first, and a large proportion of cases which are unquestionably chronic in point of duration, present, at intervals, all the symptoms of acute disease, and after death present an intermixture of those pathological conditions which M. Parchappe has described as opposed to each other from their very nature. Nothing is more common than for an atrophied brain to suffer from temporary hyperæmia. It is a pathological law, that injured and ill-nourished organisms are liable to sudden congestions, almost in proportion to the amount of deficiency in their nutrition. Hyperæmia is moreover peculiarly liable to take place in the atrophied brain in consequence of the loss of external support which the organ has sustained by shrinking away from the cranium. The lengthened, tortuous, and dilated vessels of the pia mater, in atrophied brains, indicate the frequency with which they have been in a hyperæmic state.

The form of mental disease which destroys life in the early period of its course is comparatively rare, and has been thought by many modern writers to be a distinct form. The French alienists of the

present day call it *Délire aigu*, and distinguish it from recent mania and recent melancholia. In the brains of persons who have died while suffering from this form of insanity, the strongly marked characteristics of hyperæmia of the substance and the membranes, even to the subarachnoid ecchymosis, described by M. Parchappe, undoubtedly exist. But in the recent cases of mania and melancholia of most frequent occurrence, if death were to occur from some accidental cause or intercurrent disease, which did not interfere with the state of the cerebral circulation, it is by no means so certain that strongly marked signs of hyperæmia would be found to exist. In many cases of recent mania, indeed, a condition of the brain the very opposite of hyperæmia is known to be the condition of disease, both by the nature of the cause, the effects of the remedies, and the post-mortem appearances, when chance has afforded an opportunity for observation. The fact, that all the symptoms of acute mania frequently arise, and continue throughout the course of an exhausting bodily disease, which leaves every individual organ, the brain included, in an ill-nourished and anæmic state, affords irresistible evidence that the phenomena of acute insanity must in many cases coexist with a state of the cerebral organ, the very reverse of hyperæmic. The rapid formation of ideas is so remarkable a symptom in acute insanity, that M. Parchappe, in common with M. Falret and others, considers it as a proof that the psychical activity is in a state of exaltation; and he, logically enough, infers that the plastic activity of the organ of which psychical activity is the function, must also be in a state of mental exaltation, or, as he expresses it, in a *plus* state. This, however, is not unconditionally true. Doubtless, in some cases, and for a short time, active hyperæmia of the brain, producing a rapid nutrition and decomposition of its substance, and accompanied by quick-flowing ideas and fancies, may be the condition of acute mania, as it is the condition of cerebral excitement in the early stage of intoxication. But it is an error to suppose that a rapid flow of ideas is always a sign of that psychical activity which depends upon an exalted state of cerebral nutrition. There is an idea-forming activity which resembles palpitation of the heart from weakness; and ideas frequently flow through a debilitated brain in rapid succession, because the mental impression made by each of them is feeble and transitory. Doubtless they follow a certain train, but this is of the most desultory kind, because the organ answers to the faintest touch. The Germans have a curious term for this impressive and remarka-

ble symptom. They call it *Ideenjagd* (idea-hunt). It is a hunt in which there is nothing hunted; or, like the chase of the ocean billows, where the old are ever vanishing and the new arising, without evident purpose or end:

> "Ac veluti ventis agitantibus æquora, non est
> Æqualis rabies continuusque furor.
> Sed modo subsidunt, intermissique silescunt;
> Vimque putes illos depossuisse suam."

We shall now sketch the most frequent anomalies of appearance and organization which we have ourselves found in the dissection of the bodies of the insane.

On making the examination, it is well to note the size of the bony frame, measured by the length of the body and its breadth across the shoulders and hips. This affords a much better standard with which to compare the size of the head, and the weight of the brain, than that, afforded by the weight of the body, which has been adopted for this purpose by some pathologists. The weight varies so greatly between the obesity of dementia and the emaciation of mania and melancholia, that the standard it affords is most untrustworthy.

Careful observation, however, should be made of the state of emaciation or obesity; also of any bruises, or bruise-like marks; any bed-sores or deformities. The features, after death, generally lose all expression characteristic of mental disease. The examiner is frequently surprised at the regularity of feature and placidity of expression, in countenances which, to the last hours of life, had been disfigured by the peculiarities of insane physiognomy. Even the heavy and relaxed features of general paralysis are braced up after death, and return to their normal expression. Often have we felt that we have never seen the same expression of a patient's face until after his death.

The dimensions and form of the head should be noted. Although we believe that the average dimensions of the head are below those of the sane, when the comparison is obtained by the examination of large numbers, still, in a great number of instances, they will be found to be good; and, indeed, the head is frequently not only large, but phrenologically well-shaped.

We are not aware in what proportion of the sane the shape of the head is peculiar, since it is rare that opportunities occur for making the observation among them; but among the insane a considerable

proportion present decided peculiarities in the shape of the cranium. The most frequent one is a want of symmetry in the two sides. One side is rather flatter or smaller than the other; or the whole cranium is pushed over a little to one side; or one side is a little more forward than the other; or the two anomalies coexist, giving the cranium a sort of twisted appearance. These things will not be seen unless they are looked for, with accurate and careful eyes, upon the shaven scalp.

Sometimes the skull is high and dome-like; more frequently it is as if it had been compressed laterally, and elongated from before backwards—keel-shaped, in fact, like the skulls figured by Dr. Minchin, in the *Dublin Medical Journal*, in which the centres of ossification of the parietal bones are increased in number. Sometimes the forehead is preternaturally flat, narrow, or receding, or very large and bulging; or the occipital region is deficient, and the back of the head rises in a straight line with the nape of the neck. Sometimes the skull has a remarkably square configuration. The square and carinated form of skull we have most frequently seen in connection with mania. The dome-like and high vertical skull, and also the unsymmetrical skull, most frequently in melancholia. In mania, the anterior cranium is more frequently of good shape and size than in melancholia. In the latter the forehead is often small and mean, but sometimes it is disproportionately large and globose. The shape of the head, indicated by the rules of phrenologists, can only fairly be expected to coincide with the mental symptoms in those somewhat rare instances in which insanity is the mere development in excess of natural character; and in some such instances we have found the shape of the head tally, in its general outline, with the indications of phrenology.

Occasionally depressions are found in the outer skull, which sometimes do, and sometimes do not, correspond with the bulging of the inner table of the cranium. When they do not so correspond, we have found that they indicate a local absorption of the diplöe.

It is an interesting question, how far the shape of the skull alters in insanity. If the forehead expands, even in mature age, under the influence of intellectual development, it is likely that it will contract under the influence of intellectual decay. Some writers have asserted that the shrinking of the brain in atrophy is commonly, and to a considerable extent followed, and the cranium filled, by a flattening and shrinking of the cranial bones. (See Paget's *Lectures on Pathology*.)

Rokitansky also affirms that atrophy of the brain frequently gives rise to deposit of bone on the inner table of the skull, especially about the anterior convolutions.

We have not satisfied ourselves that the increased thickness of the cranium, which is frequently met with in the insane, is in any way connected with atrophy of the brain. Some of the thickest and heaviest craniums which we have met with have occurred in instances in which there was little or no cerebral atrophy; and the condition of the cranium, where there is undoubted atrophy of the brain, is not unfrequently one of abnormal tenuity.

In pursuing the examination, the state of the ears and of the scalp should not be forgotten. The sanguineous tumor of the ears peculiar to the insane, and the shrinking of this appendage consequent upon such tumor, are noteworthy objects of attention. These tumors, for the most part, occur in the worst and most hopeless cases; but it is an error to suppose, as some authors have done, that they occur in such cases only. We have not only seen patients recover after the ear has been shrivelled up by the contraction subsequent to sanguineous tumor, but we have seen several patients laboring under quite recent insanity, in whom a shrivelled ear led to the information that a curable attack had been undergone many years previously, an attack which had been followed by perfect mental sanity of considerable duration.

The scalp is sometimes full of blood, sometimes marked with scars or contusions, telling of blows and falls. In old cases of mania it is sometimes remarkably loose upon the cranium.

The cranium itself is frequently altered from its normal condition. When thicker and heavier than usual, it is also soft and full of blood. The eburnated cranium, which is at the same time thick, dense, and devoid of blood, is not found in the bodies of those dying insane. In recent cases, the only abnormal condition to be expected in the cranium, is its discoloration from excess of blood. This is often evident, not only at the margin where it has been separated by the saw, but also through the whole extent of its inner surface, after the dura mater has been separated. It presents a mottled, but decided discoloration, from sanguineous congestion.

In chronic cases the skull-cap is sometimes thicker than usual, congested with blood, and soft in its texture; sometimes thinner than usual throughout, or partially. In the latter case the thin portion usually occurs in the parietal region, in which the diplöe frequently

disappears to such an extent that the skull becomes diaphanous. The thin diaphanous skull is met with in all stages, but most frequently in cases of very chronic mania and of dementia, in which the patient has not been subjected to temporary attacks of cerebral hyperæmia. On the other hand, a thick and heavy cranium is mostly met with in cases of chronic insanity, which have been subject to attacks of congestion, or hyperæmia *e vacuo*. The cranium is often strongly marked by indentations produced by the pacchionian bodies. Not unfrequently, also, the crista galli is elongated and enlarged; and in epilepsy the protuberances of the sella turcica are enlarged, and the marks of the gyri of the convolutions are more strongly impressed, especially in the middle fossæ.

Exostoses, or spiculæ of bone, growing either from the vault or the base of the cranium, are exceedingly rare. In 400 examinations of persons dying insane, including a large proportion of epileptics, we have only found a cranial exostosis in three instances. The dura mater is frequently found adherent to the cranium. In old cases, indeed, it is rare to find that this membrane separates from the cranium with its usual facility in adults. The degree of adhesion which exists in chronic insanity varies from that which can scarcely be called abnormal, to such a close and intimate union, that on the application of force the membrane splits into layers, rather than part from the bone, from which its fibres cannot be separated except by hard scraping. In acute cases, the dura mater is sometimes discolored by sanguineous congestion.

Recent anatomists discard the old view, that the inner polished surface of the dura mater is a reflection of the arachnoid. It certainly cannot be demonstrated by the scalpel, that any serous membrane lines the dura mater; and the idea of a parietal arachnoid appears to have been due to the exigencies of systematical anatomy, rather than to the evidence of demonstration. We adopt the view that there is no parietal arachnoid, and that the polished surface is actually part of the dura mater. This polished surface is not unfrequently the seat of exudative processes in the insane; although it is rare to find in this locality exudations of a true fibrinous character, the results of undoubted inflammation, notwithstanding the assertion of Rokitansky, that the surface of the brain and the skull bound together by a series of successive normal and false membranes is a "termination of meningitis frequently found in mental disease, especially in cases of secondary imbecility." Notwithstanding this high

authority to the contrary, we must assert, that adhesions between the cerebral arachnoid and the dura mater are extremely rare in the bodies of persons dying insane. On the upper part of the brain we have never met with this state of things referred to by this author. The nearest approach to it that we have met with in this region has been the connection of the dura mater with the thickened arachnoid and pia mater, by means of several ligamentous bands, the condensed and organized remains of very moderate fibrinous exudation. In two instances, we have met with adhesion of the substance of the brain and its intervening members to the dura mater, along the petrous portion of the temporal bone; and in one instance, by the ridge formed by the ala of the sphenoid. It is an occurrence of much greater frequency for the polished surface of the dura mater to be the source of an exudation not fibrinous, and not tending to contract adhesions. These exudations are very remarkable, and by different authors have hitherto been generally regarded—either when much colored with blood-pigment as instances of sanguineous effusion into what was considered the sac of the arachnoid, or as false membranes arising from arachnoidal inflammation. That instances of these latter conditions are not very unfrequent, renders it the more needful to distinguish the peculiar exudation to which we refer. It resembles a layer of red currant jelly spread over the surface of the dura mater. On examination, there appears to be an extremely fine cellular network, containing in its meshes an albuminous semi-fluid substance, colored with blood-pigment. Sometimes the exudation extends to the temporo-sphenoidal fossæ. Sometimes it is confined to this locality. Virchow has, quite recently, announced its nature to be that of a colloid tumor, flattened into the resemblance of a false membrane by its position. We adhere to the belief that it is an albuminous exudation, containing a small proportion of fibrine, and colored with blood-pigment. Sometimes true hemorrhage is found on the inner surface of the dura mater. On the appearance of this as a layer, Rokitansky observes, "Those extravasations which have been supposed to be collections of blood between the serous and fibrous layers of the membrane, with the exception of a few cases in which a small effusion has raised its innermost layer, must have been extravasations into the sac of the arachnoid, which, after acquiring an adhesion to the dura mater, have become encysted." (Vol. iii, p. 323, *Sydenham Society's Translation.*)

In many instances of chronic insanity, and of recent insanity in

which there has been a previous attack, we have found the dura mater in the temporo-sphenoidal fossæ changed to an orange-yellow color—not uniformly, but as if freckled. Doubtless this discoloration was due to the blood-pigment of reabsorbed exudates; and it points, like the other changes so uncommon in this membrane, to the frequent existence in insanity of one period during which the appendages of the brain are in an hyperæmic state prone to hemorrhages, and to albuminous or albumino-serous exudations, colored with dissolved blood-pigment. The colored exudations above referred to seem to us to bear a close resemblance to the exudations of blood-colored serum which take place between the cartilages of the ear, and to be owing to the same crasis.

Sometimes the structure of the dura mater is found to have undergone osseous metamorphosis. We have never observed this to occur in the tentorium, where comparative anatomy would lead one most to expect it. We have, however, found it in the falx cerebri. Exostoses of the inner table of the skull probably have their origin in the dura mater. We have only once found a true tumor of the dura mater. This was as large as a filbert, pressed upon the pons, and was accompanied by epilepsy. Its structure was fibro-cellular, and it contained an abundant quantity of cholesterine in large plates.

The Arachnoid.—We have never found a state of undoubted inflammation presenting the appearance of the inflamed conjunctiva, as described by Guislain. In a few cases of acute mania and melancholia, we have observed the appearances of ramiform congestion; but it may be doubted whether this was not due to the underlying vessels of the pia mater. Doubtless, in some cases, the hyperæmia in the capillaries of the arachnoid amounts to actual stasis, otherwise the fibrinous false membranes, and the adhesions which are sometimes observed in it, would scarcely exist. A frequent change of this membrane, found in persons dying insane, is thickening and opacity. "The arachnoid tissue," says Rokitansky, "is opaque, dull like whey or milk, tumid and white, and it has the appearance and density of tendon." Often this change is limited to the arachnoid covering the convolutions of the vertex; sometimes it is restricted to that part of it which corresponds to the sulci, leaving the part which covers the convolutions thin and transparent. Patches, however, of very decided thickening and opacity are occasionally found on the anterior convolutions of one or other hemisphere; the changes observed in the vertical region being rarely one-sided, or even greater

on one side than on the other. What does opacity and thickening of the arachnoid indicate? According to the above author, the "changes frequently discoverable in this membrane can be attributed only to congestion, or to slight and passing attacks of inflammation." "Opacity and thickening of the arachnoid are very common post-mortem appearances. After middle life a moderate degree of them is almost constantly found, and their absence is the exception; for, at that period, every one must have been exposed to repeated congestions of the brain and its inner membranes" (op. cit. p. 329). The change here referred to as being so common, is, although the same in nature, greatly less in degree than that commonly found in the bodies of persons dying insane. It is merely an opalescence as compared with decided thickening and opacity, like a thin slice of the boiled white of egg. The frequently repeated congestions to which Rokitansky refers this change in the sane, exist in much greater force and frequency in the insane, and give rise to a corresponding intensity of this pathological change. It appears not to be the result of inflammation, even of "slight and passing attacks," so much as that of congestion. In nature it closely resembles those opaque patches frequently found upon the visceral pericardium. Its character is that of the albumino-fibrous deposit, which forms one link in the chain of degenerative change, which passes, according to its locality, into atheroma or into fat.

In connection with the arachnoid are the pacchionian bodies, absurdly called glands. These Rokitansky regards as granulations of the arachnoid, rarely indeed altogether absent, but depending for their development upon the same repeated congestions which render the arachnoid itself thick and opaque.

Luschka, however, has recently shown that these bodies are normal as to their existence, and pathological only as to their hypertrophy. He calls them *arachnoidal villi*, and refers the genetic cause of their growth to "the disturbances of the circulation which attend the natural involution of the organism in old age. In consequence of the impeded motion of the blood, a modified transudation must take place, which (in our ignorance, it must be confessed, of its precise nature) we regard as the principal cause of the increased amount of nutritive material with which the arachnoid is supplied." (Weld. *Sydenham Soc. Trans.* p. 352.)

Now in the insane of all ages, the pacchionian bodies are frequently found to be greatly enlarged, so as not only deeply to indent the dura

mater, but even to perforate it, and form for themselves reception cavities in the parietal bones alongside the sagittal suture. Before the circulation has become impeded by the advance of age, they are prematurely produced in the insane by the impeded circulation of cerebral congestion, the frequent condition of mental disease.

We are not aware whether the minute anatomists of the German school make any distinction between that which they call the *ependyma* of the lateral ventricles and the arachnoid membrane in this locality. This ependyma, which is the seat of those puzzling bodies, the amylaceous corpuscules, is described by Virchow as the uppermost layer of the fine connective tissue which binds together the foundation masses of the brain. Be this and the arachnoid of the ventricles synonymous or not, it is certain that the walls of the lateral ventricles present, in chronic insanity, and especially in general paralysis, a peculiar and frequent change. They appear to be covered with fine sand, or rather to be converted into the resemblance of fine shagreen; a change due to a nodulated deposit of fibro-albumen.

The arachnoid of the ventricles also becomes more thick, dense, and tough; a change which is obvious in the septum lucidum, which in the early stages of general paralysis, and in the later ones of chronic mania, instead of the exquisite delicacy which renders its demonstration so difficult in health, becomes a toughish and resistant membrane.

The Pia mater—tender mother of the brain, and its wondrous offspring of thought and passion—is far more closely and intimately related, both in health and disease, with the organ to whose more noble parts it supplies nutriment, than either of the other meningeal wrappings. The pia mater is more than a mere investing membrane; it is more than a subserous connective tissue of vascularity greater than is common to such parts. It is a vascular plexus, admirably arranged to supply the gray matter of the convolutions with an abundant supply of the nutritive fluid, so loose and large in its ramifications as obviously to suggest the idea, that its construction is also subservient to rapid and great changes in the quantity of blood in the organ it supplies. What the submucous vascular layer of the stomach is to the function of digestion, the pia mater appears to be to the higher functions of the brain; and it is more than probable, that active thought or intense emotion causes in it hyperæmia as sudden, frequent, and transitory as the function of digestion gives

rise to in the vascular layer of the stomach. One part of this plexus, or rather an appendage to it, the choroid fold within the lateral ventricles, has a structure analogous to, if not identical with, erectile tissue. Upon this resemblance an ingenious writer in the *Dublin Quarterly Journal of Medicine* has based his theory, that sleep in the normal state, and epilepsy in the abnormal state, are dependent upon a turgid or erectile condition of this apparatus, by means of which a gentle but general pressure is exercised from within upon the whole substance of the brain. With regard to epilepsy, there are insurmountable objections to this theory; but the very existence of such a structure, in connection with the pia mater, increases the probability that frequent turgescence of this membrane is a physiological state. "There is no question," says Rokitansky, "that congestion of the pia mater is a very frequent occurrence." "Yet, if we except the post-mortem congestion of the pia mater covering the posterior lobes of the cerebrum, any considerable degree of congestion is far less commonly met with in the dead subject than is supposed; and there is, perhaps, no respect in which moderation in estimating appearances needs so much to be impressed upon the unpractised observer, as in regard to the quantity of blood contained in the vessels of the pia mater. As a general rule, a very moderate injection of these vessels is erroneously looked upon as congestion." "The terminations and consequences of these congestions vary, according to the frequency and duration of their cause. They consist of thickening and condensation (increase of volume) of the pia mater and arachnoid, of permanent infiltration of the former, and a varicose condition of its vessels. Such a state of the inner membrane is well marked after the congestions which are produced by continued and forced exertion of the mind, or by repeated intoxication, especially by alcoholic drinks" (op. cit. pp. 339 and 340).

Thus we learn from this great pathologist the frequency of congestions of the pia mater; their causation by two of the common causes of insanity, mental overstrain and drunkenness; and lastly, the difficulty which exists in recognizing, after death, the existence of a pathological degree of this frequent congestion. The same difficulty exists in the tissue to which we have compared its functions, namely, the submucous vascular layer of the stomach. In both these instances, this difficulty of post-mortem recognition arises from the same cause. A moderate degree of congestion is in neither instance pathological. It becomes so only when the degree or frequency of

the congestion tends to produce structural change. The last moments of life are commonly passed in a state adverse to the continuance of congestion, unless they are attended by such difficulty in the respiratory movements as to impede the return of the venous blood to the heart, and hence a state of congestion which may have existed in the pia mater, even to a short time before death, may have left no traces discernible after that event.

The exudations of the pia mater in mental disease are not of the organizable fibro-albuminous kind. They are rarely even distinctly albuminous. It is rare to find them even opaque, either from par tially coagulated albumen or from fat. Even when the arachnoid is thickened and opaque from exudations of the kind, those of the pia mater are remarkably limpid and serous. Adherent false membranes are not found once in a hundred cases of persons dying insane; and even in these rare instances, their occurrence is traceable to a pre-existent inflammation, and is not to be considered as a condition proper of insanity. According to Vogel, fibrinous exudations result mainly from the minute capillaries, whilst serous or hydropic effusions derive their source from the small veins. The plexus of vessels which forms the pia mater is decidedly venous in its anatomical character, and the serous nature of its ordinary exudates may fairly be thus accounted for.

Although fibro-albuminous exudates in the pia mater, and the false membranes and adhesions resulting therefrom, are so uncommon in insanity, there is one form of adhesion of frequent occurrence in this membrane, namely, the slight but important adhesion between it and the gray substance of the convolutions. The plexus of vessels more or less infiltrated with serous effusion, is sometimes very readily separable from the gray substance which it invests. But in many instances it is not so. What are called adhesions more or less intimate and extended are found to have formed, so that sometimes over the whole extent of the convolutions, semetimes only in isolated parts, the convolutions cannot be divested of their vascular envelope, without small portions of the gray substance remaining adherent to it. In these instances there is no appearance of fibro-albuminous exudation in the pia mater; but it is probable that the cytoblastema of the gray substance has received an addition of fibro-albumen from the minute arteries and arterial capillaries in connection with the pia mater, and ramifying in the gray substance; an addition which prevents the small vessels from being withdrawn from the soft sub-

stance of the gray matter with the same facility as in the normal state. Something, also, may be attributed to an increased toughness in the coats of the minute bloodvessels preventing facile rupture.

Congestion of the pia mater, and consequent serous effusion into its meshes, is the constant result of atrophy of the brain. "When an empty space is formed within the skull by a reduction of the volume of the brain, it is filled up by an increase of the volume of the inner membranes of the brain, and especially by an extraordinary exhalation of serum into the tissue of the pia mater, the sac of the arachnoid, and the internal cavities of the brain, more particularly the lateral ventricles. These changes result from the congestion of the vessels which the vacuum produces." (Rokitansky, op. cit. antea. p. 364.)

Thus arises the *Hyperœmia e vacuo*, the pathological condition of the very frequent cases of spurious apoplexy which occur among old and chronic lunatics—every attack of which renders the vessels of the pia mater more dilated and tortuous, and more disposed to the recurrence of the congestion. This may, and frequently does, concur with an anæmic as well as with an atrophic condition of the substance of the brain. In the healthy organ, congestion of the pia mater cannot occur without accompanying congestions of, at least, the gray matter of the convolutions; but, under the pathological conditions which attend atrophy of the organ, a sudden congestion of the loose and water-logged membrane frequently occurs, without affecting the anæmic and atrophic brain otherwise than by adding a temporary impediment to its functions from the sudden pressure.

To recapitulate: The pia mater, in rare instances, is found to be the seat of fibro-albuminous exudation, and consequent adhesion. It is the very frequent seat of congestion, which may or may not be obvious after death. Frequent congestions enlarge and render its vessels more tortuous. They also result in a thin hydropic effusion—more rarely in a turbid albuminous one. Not unfrequently the membrane contracts adhesions to the gray matter of the convolutions, but without visible exudation of albumino-fibrine or false membrane. In cases of acute mania and melancholia, thin extravasations of blood, not larger than a finger-nail, occur in its tissue. Diffuse inflammation of the pia mater, and tuberculous infiltration and deposit, are extremely rare among the insane.

The pathological conditions of the choroid plexus are as obscure as

its physiological purpose. It is not found hypertrophied in epilepsy, which it should be were the theory true which attributes the production of that disease to its turgescence. It often contains cysts, analogous to those observed in Bright's disease in the Malpighian bodies; but whether the frequency of these cysts is greater among the insane than the sane, there are no data to determine.

The Cerebral Substance.—The condition of the cerebral membranes, and indeed of all other parts, is, of course, in the pathology of insanity, secondary and subservient to the state of the substance of the brain itself. The condition of the cerebral substance is the prime question in the pathology of mental disease. Frequently this condition can only be judged of by the state of its bloodvessels, or can only be guessed at by that of its membranes, or some still more remote indication. Not unfrequently, in partial and sympathetic insanity, it appears to be perfectly sound in structure, although the deductions of science assure us that this soundness is in appearance only, and is solely attributable to the imperfection of our means of observing and investigating.

To the pathologist, the substance of the brain is as yet practically structureless. Although the microscope reveals cells and tubes and intervening stroma, up to the present time it is unable to indicate when they are in a normal or abnormal state; and although it may prove that in some cases the smaller arteries are diseased—that in a few others there are exudation corpuscules, or an increase of fatty particles in the substance itself—it has not yet enabled us to distinguish between the states of the whole organ which must be diametrically opposite, for instance, between the state of hypertrophy and atrophy.

Practical observation, therefore, must be made upon the bulk, color, density, and specific gravity of the brain-substance, and upon the condition of its bloodvessels.

The bulk of the brain varies from a state of atrophy, in which it has been known to lose nearly a third of its volume, to one of hypertrophy, in which, but for the restraining pressure of the unyielding cerebral walls, there is little doubt but that its bulk would be not less augmented. Cerebral atrophy, as the most frequent, is the most important of all changes in chronic conditions of mental disease. We have already written so fully on this subject, that our limits only permit a few further remarks.

A considerable degree of cerebral atrophy is rarely unattended by

changes in the color and consistence of the brain-substance, sufficiently obvious to the eye of the experienced observer. It is frequently both anæmic and discolored; the gray substance contains less red and more brown; and its coloration, also, in depth of tint, varies greatly; sometimes its tint is deeper than is usual in health, but far more frequently it is paler, and occasionally it is of little more than a darkish buff.

On this point Mr. Solly remarks, that having many opportunities of examining the brains of the insane at Hanwell, he made colored drawings of the cortical substance of all patients indiscriminately; and he adds, "The general result of my observations was, that a pale condition of this ganglion was almost invariably found in patients who had sunk into a state of imbecility, and was generally associated with some serous effusion, and thickening of the arachnoid and pia mater." (Solly "On the Brain," p. 398.) Its uniformity of color, also, is lost. The gray layer of the convolutions consists of six planes, in which white and gray substances alternately preponderate. M. Baillarger, in his memoir on this subject ("Mem. de l'Acad. de Med." tome viii), states that it consists of six of these alternate layers. There can be no doubt that three such layers exist; but whether these can again be subdivided, is a question which we have not been able to determine. In the normal state, this triple division is very obvious to the naked eye in the posterior convolutions of the cerebrum; but in a state of atrophy it becomes still more obvious throughout all the convolutions where it was previously not observable. This appearance arises from diminution in the quantity of the pigment-colored cells in the whole of the cineritious layer. This diminution in the bands where the white matter exists in largest quantity, renders the color of the latter very apparent. According to the statement of M. Baillarger, the external layer of the convolutions is white, and not gray. It would, we think, be more correct to say, that the external layer contains a less proportion of vesicular neurine to the tubular substance with which it is intermixed, than the layer next but one to the surface, and again, than the layer next but one to that. The consistence of the gray matter of the convolutions is very generally lessened when the organ is atrophied. Sometimes the superficial layer is obviously softened, but more frequently the gray layer immediately under it is the seat of the greatest amount of softening. The color and consistence of the tubular neurine are notably altered. Unlike the gray matter, its depth of color is gene-

rally increased. From the clear white of health, almost imperceptibly tinged with pink, it assumes a dirty brownish hue,—very faint, indeed, but quite unmistakable.

The consistence and density of the white substance vary greatly. In the *Atrophia cerebri senium*, the consistence of the white matter is generally a little increased. In the *Atrophia cerebri præcox*, the consistence is increased whenever the primary condition of disease has been a hyperæmia verging on phlogosis, and tending to the addition of albumino-fibrine to the substance of the brain. This is particularly the case in the atrophy which attends the later stages of epilepsy—an atrophy which is preceded by a period of congestive hypertrophy, and meriting the name which has been applied to it, of concentric hypertrophy of the brain, if such a term is not in all instances somewhat absurd. In atrophy not consecutive upon a congestive condition of long standing, but either primary or secondary only to a state of general debility or dyscrasia, the consistence of the tubular neurine is diminished—sometimes to the extent of making it appear that the whole brain is infiltrated with serum. Rokitansky asserts that atrophy is accompanied by increased consistence and tenacity, or sclerosis, as it has been called. "The surface of a section of the hemisphere shrinks and becomes concave; and here and there certain portions offer more resistance than others, and wrinkle and lie in folds." This, however, is an observation which we have not been able to verify.

When induration exists, it is in greatest degree in the neighborhood of the lateral ventricles. The latter are generally enlarged and distended with a very limpid effusion; and thus the bulk of cerebral substance is diminished, both from within and without. Sometimes the lateral ventricles are greatly contracted; sometimes they are of normal size. Andral states, that unless each lateral ventricle contains more than an ounce of fluid, it cannot be reckoned abnormally large.

It is unnecessary to refer, in this place, to the shrunken and pinched appearance of the convolutions, and the widely-opened sulci. In not very unfrequent instances, the remarkable appearance of circumscribed atrophy affecting three or four convolutions, generally about the vertex, is presented. In such instances, the loss of bulk is replaced by a partial œdema of the pia mater, presenting the appearance, under the arachnoid, of a gelatinous bag. This partial atrophy of the brain has not hitherto been connected with any peculiar loss

of mental function calculated to add an additional proof to the arguments of phrenology.

Atrophy of the brain rarely exists in any considerable degree, without a notable diminution of the breadth of the gray substance of the convolutions. The normal breadth of this substance we have ascertained, by numerous measurements, to be eight hundredths of an inch. In atrophied brains it is reduced to seven, and frequently to six hundredths.

It is a remarkable fact, first noticed by Cazauvielh, that atrophy of the brain is confined to the cerebrum. Even in extreme age, when the cerebrum is much wasted, the cerebellum retains its full size.

The usual condition of atrophic brains, with reference to the state of the bloodvessels, is a degree of anæmia; but sometimes, owing to the circumstances of death, this condition is replaced by one of congestion, and the dirty white of the tubular neurine becomes mottled with a faint violet discoloration. This is especially the case when death occurs soon after severe convulsive attacks, or during the course of congestive apoplexy.

Hypertrophy of the brain is an interesting but rare form of pathological change. But for the pressure exercised by the unyielding walls of the cranium, the brain would doubtless undergo enlargement with every considerable degree of congestion which it suffers. As it is, congestion of the brain constitutes one form of hypertrophy, of common occurrence, contrasted with the true hypertrophy of the cerebral substance, in which the brain is anæmic, the vessels being emptied by the ever-increasing pressure.

In the bodies of persons who have died during the early period of epileptic disease, and of some who have died in the first stages of mania, the brain appears too large for its case; the convolutions are flattened; the sulci cease to exist as indentations between the convolutions; lines only can be perceived, in which processes of the pia mater dip. The vessels of the pia-mater itself are distended with blood; the gray matter is deepened in color; the white matter pinkish, or mottled with pale violet; and the cut ends of the vessels in it effuse an abundant quantity of *puncta sanguinea*. This is false or congestive hypertrophy.

In true hypertrophy, the brain swells up when the cranium is removed, so that the latter cannot be replaced; the convolutions are flattened, the sulci obliterated; the arachnoid is transparent, thin,

and dry; the pia mater is exsanguine; the gray substance very pale; the white substance pure white, with few traces of bloodvessels, dense and tenacious. As the change progresses, the mental functions, and especially the memory, become more and more feeble; but dementia, to the extent which follows atrophy of the brain, rarely, if ever, supervenes. Epileptiform convulsions appear towards the close of the case, and usually supply the means of death. In a marked case which came under our own notice, epileptiform convulsions existed at intervals for more than six months before decease. The post-mortem examination displayed all the above appearances, with the addition of the remains of a sanguineous effusion, thin, old, and yellow, surrounding the crista galli of the ethmoid.

There have been many differences of opinion respecting the nature of this pathological change. Dr. Handfield Jones, in an excellent paper on "Fibroid and Allied Degenerations," in the 27th No. of the *Medico-Chirurgical Review*, maintains that it is not a true hypertrophy. "It can hardly be thought," he says, "that a true hypertrophy existed, otherwise surely there would have been some apparent superiority of intellect. The truth probably was, that there was just the ordinary amount of nervous matter, *plus* a certain quantity of interstitial exudation." Doubtless it is not a true hypertrophy in this strict sense of the term, *i. e.* the abnormal increase of normal structure; and although Rokitansky declares it to be "a genuine hypertrophy," he explains the meaning he attaches to this term; so that, according to its acceptance in this country, it would be excluded from the category. He says, "It consists as such (*i. e.*, as a genuine hypertrophy), not in an increase in the number of nerve-tubes in the brain, from new ones being formed, nor in an increase in the dimensions of those which already exist, either as thickening of their sheaths, or as augmentation of their contents, by either of which the nerve-tubes would become more bulky. It is an excessive accumulation of the intervening and connecting nucleated substance." He attributes its occurrence to an excessive development of the lymphatic system, although he admits that its immediate cause may be congestion.

Dr. Handfield Jones's test of a genuine hypertrophy appears, in this instance, fallacious, inasmuch as an increase of normal tissue may fail to confer increased power of function, if the new tissue is in a condition unfavorable to its activity,—if, for example, it is subjected to pressure. Nor does it seem more probable that it is a

genuine hypertrophy, upon Rokitansky's showing. The substance normally intervening between the cells and tubes of the brain is a semi-fluid stroma; and any considerable increase in it would give rise, not to a great density and tenacity of the organ, but to a kind of softening. It is, we think, far more probable that the addition to the brain-substance consists in a slowly formed exudate, of an albuminous or fibro-albuminous character, gradually pervading the whole of the cerebral substance. This originates in some obscure vice of nutrition, and is, we believe, a pathological change far more common than is generally supposed. In rare instances the exudate goes on increasing until death from convulsions takes place, and the peculiar characteristics of cerebral hypertrophy are found. More frequently, however, the process undergoes an arrest and an inversion. The exudate pressing upon the normal tissue, and upon the bloodvessels, impedes the nutrition; the exudate arrests its own further accumulation, and a reverse movement takes place, tending to cerebral atrophy with induration. Such, we believe, to be the true pathology of a large class of epileptic cases—namely, of those in which the nutritive powers are at first in excess, the muscular system highly developed, the functions vigorous, and the health robust, and in which there is an early tendency to maniacal excitement, gradually passing into the opposite one of dementia. The cure of these cases is hopeless, but the relief afforded by early antiphlogistic treatment, moderate and prolonged, supports our view of their pathological character.

Inflammation, Congestion, and Anæmia of the Cerebral Substance.—Inflammation of the gray substance of the convolutions is, undoubtedly, an occasional cause of insanity, although it cannot be admitted as one of its conditions. According to the limitations of that most artificial of sciences, nosology, phrenitis is not insanity, and does not belong to the specialty of the psychologists. The same may be said of cerebral hemorrhage. The appearances and symptoms which primarily attend these forms of pathological change are, therefore, excluded from the present notice. But a brief reference cannot be avoided to the changes which they frequently undergo, attended by symptoms of undoubted mental disorder. One of the reliquiæ of inflammation of the gray substance of the convolutions is a chronic induration of the superficial layer; another is that adhesion of the same to the pia mater, which has been found by M. Parchappe so frequent in the insane; others are a softened condition of the middle layer of the gray substance; induration or atrophy of the

whole of this substance; in some rare instances, entire loss of portions of it by ulceration and absorption. When the functions of the gray substance have been deteriorated by these changes, the whole substance of the brain wastes, as the optic nerve wastes in cerebral amaurosis, and thus atrophy of the whole cerebrum finally results.

Inflammation of the white substance of the brain is usually far more limited in extent than that of the gray substance. It is also a more chronic affection—destroying life, when fatal, by convulsions, low fever, gangrenous sores, and pulmonary congestions. Although, during its progress, the mind is always more or less disturbed, and actual delirium is frequent, yet it is a less frequent cause of insanity in any of the acknowledged forms of the latter than inflammation of the gray substance. Parts of the brain which do not participate in the inflammatory action become œdematous, and others anæmic from the pressure of those parts whose bulk is augmented. This disturbance of pressure, and of blood-supply consequent thereupon, is necessarily accompanied by disturbance of the functions of the organ, often to a greater extent than the post-mortem appearances explain, since the pressure of the different parts equalizes itself after the process of inflammation has been arrested by death.

The relation which *Cerebral Hemorrhage* bears to insanity is of the same nature, but less intimate than that which inflammation holds. Numerous instances of cerebral hemorrhage occur without giving rise to any mental disorder; but on the other hand, the processes of irritation and exudation, set up by a clot in the brain, not unfrequently give rise to mania, rapidly running into dementia. In such cases the brain is found to be atrophied, and to contain clots or cysts, or cicatrices, in the various stages of reparative or degenerative change.

When cerebral hemorrhage is subsequent to atrophy, a remarkable modification of the usual symptoms of apoplexy may result. An enormous amount of blood may be slowly effused around the cerebral hemispheres, not only without the immediately fatal result which would occur if the hemorrhage took place in a brain not atrophied, but without giving rise to urgent symptoms of cerebral pressure. Instead of exerting a fatal pressure upon the substance of the brain, the effused blood only displaces an equivalent quantity of serous fluid, which finds its way from the cavity of the arachnoid and the meshes of the pia mater to the spinal bag. In the 29th vol. of the *Medico-Chirurgical Review*, we have given the details of a case remarkably illustrating this proposition. In this case a demented patient had an

attack of apoplexy on the 29th of September, 1853, and he lived until the 7th of July, 1854. The post-mortem examination showed the remains of a sanguineous effusion, fibrinous and tough, which completely enveloped the cerebrum. It was situated in the cavity of the arachnoid, and over the vertex and sides of the brain was half an inch thick, and was the color of venous blood. In the petrous fossa it was also thick, but had become yellow. It did not extend over the cerebellum, but the effusion from which it was formed, had found its way into the lateral ventricles, as these contained masses of dark-red fibrine; a thin layer, also, extended two inches down the spinal canal. Between the visceral arachnoid and the brain there was a large amount of serous effusion. The cranial cavity required 52½ ounces of water to fill it. The brain displaced only 37½ oz., so that the atrophy of the organ was equivalent to 15 oz., or nearly one-third of its normal bulk. Subsequent to the occurrence of the apoplexy, the patient lived a kind of vegetative existence, with the smallest amount of mental and animal function we ever saw in the possession of a living human being during so long a period.

The small extravasations of blood often found on the surface of the convolutions in many cases of acute mania and melancholia, result from congestion of the pia mater. In some instances a dyscrasial condition of the blood may aid in the production of these effusions, as it does in the extravasations, which, in the insane, take place under the conjunctiva and between the cartilages of the ear.

One of the most important conditions of the brain-substance is *Congestion*, but of its appearance little can be said. Congestion of the gray matter is indicated by various shades of red, brown, and gray, of which the practised eye becomes cognizant. In recent and acute mania a deeper red tinge prevails. In cases of longer standing, and where atrophy of the organ also exists, the deeper tinge is of a brown or gray cast. The same distinction is true in congested states of the whole substance. In acute mania and melancholia the whole surface of the centrum ovale, in some instances, presents a uniform pinkish hue; in others this hue is mottled with the normal white. In other instances, not in any way distinguishable from the last by the previous symptoms, the cut surface of the centrum ovale is mottled with a light violet hue. This hue is never uniform, except after death from long-continued epileptic convulsions. In acute mania and melancholia it is mottled either with white or with pinkish-white. The above appearances of cerebral congestion are commonly

accompanied by a great abundance of bloody points, due to blood issuing from the cut orifices of the small vessels. This appearance is not constant, even in brains obviously discolored by congestion. Its absence may be due to the loss of contractility in the small vessels, or to the blood they contain not being fluid.

Anœmia of the brain-substance, made evident by paleness both of the gray and white matter, and by the small number of bloodvessels which are visible, is observed in a few cases of acute mania; sometimes, also, but more rarely in melancholia. In many chronic cases, with cerebral atrophy, anæmia is the ordinary condition of the brain-substance, although it frequently alternates with transient states of severe congestion. The state of the pulse, and the aspect of the skin of the face, the conjunctiva, and the lips, may indicate whether congestion or anæmia is present in the brain; but these conditions cannot always be diagnosed from the mental symptoms. Andral has well pointed out this common nature of functional disturbance arising from diverse causes: "It is a law in pathology, that in every organ, the diminution of the quantity of blood which normally it should contain, produces functional disturbances, as well as the presence of an excessive quantity of blood. We have found, more than once, the brain and its membranes completely bloodless in children who died in the midst of convulsions. We have also seen the state of coma, in which many of their diseases terminate, coincide with remarkable paleness of the nervous centres. Sometimes, also, in adults we have been struck with the complete absence of color in the brain, perceptible principally in the gray substance, in cases wherein during life cerebral phenomena had taken place—such as delirium, convulsive movements, coma. Do not animals, also, who are bled to death, exhibit symptoms of this description?" "But when we have referred the symptoms to hyperæmia in one case, and to anæmia in another, are we come to the bottom of the subject? By no means: for this hyperæmia and this anæmia are themselves mere effects which —a thing very remarkable—the same influence can very often produce. Thus by an emotion of the mind, the skin of the face becomes red, in one person, and pale in another."—(*Clinique Medicale.*)

This enlightened view must be applied to explain the uniformity of symptoms which attend many other deviations from the normal condition of the brain-substance. Thus induration and softening are both found in atrophic brains, in chronic mania and dementia. Either

of them may be attended by a congested or anæmic condition, anæmia being the usual condition, and hyperæmia a frequent but transient state.

With regard to induration of the brain-substance in the bodies of persons dying insane, we have never met with that "leather-like and fibro-cartilaginous hardness and resistance" to which sclerosis of the brain is described to attain. The slighter degrees of induration dependent upon diminution of water in the brain, and perhaps also upon the existence of some amount of albuminous exudation, are common in cerebral atrophy. The slighter degrees of induration may be general, but the higher degrees must be partial, since the organ could not perform its functions were it universally changed into a tough substance, like leather or caoutchouc. Callous cicatrices, marking the locality of old apoplectic rents, have offered the only examples of leather-like induration which we have met with among the insane.

Œdema of the brain, a state in which the tissue of the organ is permeated by water or serosity, is a not unfrequent condition with persons who, with atrophy of the brain, have great general debility or cachexia of the body. The brain appears unusually moist, and its cut surface is of a brilliant white. In extreme instances, this condition is exaggerated until parts of the organ are almost broken down into a pulp, and the appearance of ramollissement is produced. It is not, however, to be considered one form of this affection.

The two forms of ramollissement are not found more frequently in the brains of persons dying insane than in those of others. The same may be said of the cellular infiltration described by M. Durand Fardel. In four hundred autopsies of the insane, we have only met with it in two instances. In both instances it occurred in aged persons suffering from chronic mania, in whom it gave rise to a series of convulsive attacks, which terminated in death. The brains of the insane appear to be certainly not more liable than those of others to various incidental affections. Thus in four hundred autopsies of the insane, we have only once met with a hydatid, only once with tubercular deposit in the substance and meninges, only once with a fibro-cellular tumor, and not once with malignant disease. The arteries at the base do not appear to be more frequently or extensively affected with atheromatous change, than those of sane persons of the same age. And in the bodies of the insane we have never yet met with that cretaceous deposit in the coats of the small arteries, which

makes them feel like pieces of fine wire imbedded in the brain-substance.

A large number of brains of the insane we have diligently investigated with a first-rate microscope. The results appear to us to have afforded no distinction between the sane and the insane brain. We have found exudation corpuscules, but only in instances where the existence of inflammatory action was apparent without the use of the microscope; and therefore this microscopic test of cerebral inflammation proposed by Dr. Hughes Bennett, appears to be of little value. In inflammatory and softened parts of the brain-substance, we have found fatty degeneration of the coats of the small arteries; but it remains to be seen whether this change is not as frequent in the brains of the sane. We have not been able to discover fatty degeneration of the arteries where the pathological changes more peculiar to insanity alone existed. The same may be said of fatty degeneration of the brain-substance, consisting in the abundant dissemination of amorphous fat particles, which is found in some specimens of cerebral softening.

It seemed reasonable to expect that, by the aid of the microscope, one would be able to ascertain whether any exudation or addition to the stroma of the brain, or any change in size, shape, or proportionate number of its cells, takes place; and in the indurated brain of chronic insanity, whether that finely fibrillated exudate, which has been described by some writers, actually exists; also, whether, in extreme atrophy of the brain, any proportion exists in the diminution or degeneration in the form of the cells or tubes. In none of these points of inquiry have we been able to attain the slightest success.

The atrophied brains of the insane frequently contain a large quantity of those bodies which bear so close a resemblance, both in form and chemical reaction, to starch corpuscules. We have found them most abundant immediately under the lining membrane of the lateral ventricles, but they are to be met with in all parts of the organ. Small plates of cholesterine are not uncommon in degenerated brain-tissue, and we have frequently observed peculiar bodies, which we have seen nowhere described. They are in shape like the blade of a lancet, pointed at both ends, and about three or four times the width of a nerve-tube. They remind us of the raphides of some plants.

Our present limits do not permit, in this place, any reference sufficiently detailed to be satisfactory, to our investigations upon the

specific gravity of cerebral substance. These we have already published in the *Lancet* for December 25th, 1852, and the *Medico-Chirurgical Review* for January, 1855, to which we must refer those of our readers who desire to know more of this subject.

We may state briefly, that in the thirty cases tabulated in the *Lancet*, the average specific gravity of the cerebrum was 1040, the range being from 1036 to 1046; while the average specific gravity of the cerebellum was 1043, the range being from 1039 to 1046. It was also observed that the specific gravity was higher "when life had terminated in coma or asphyxia, than when it had ended in syncope or asthenia." In our annual report of the Devon Asylum, for 1851, we published some investigations on the same subject, from which it resulted that the average specific gravity of the cerebrum was 1039½, and that of the cerebellum 1042. In the sixty-three cases tabulated in the *Medico-Chirurgical Review*, the average of the white substance of the cerebrum was 1039, and that of the gray substance 1037; that of the cerebellum, gray and white substance conjoined, 1040. The lowest specific gravity of white cerebral substance was 1033, the highest was 1046; of the gray substance the highest was 1048, the lowest 1030; of the cerebellum the highest was 1040, the lowest 1030. The lowest specific gravities were generally connected with a watery or œdematous condition of the brain, which led us to adopt the term "relative atrophy," in contradistinction to that of "positive atrophy," where the organ has actually shrunk. The two conditions, however, may coexist, as we remarked in the *Lancet:* "The additional fluid which makes the brain light, goes to make up for interstitial atrophy, but it does not wholly make up for it, and the brain shrinks from its bone-case." "A low specific gravity does not necessarily indicate a diminution of cohesion, or the commencement of ramollissement, although it points in that direction. A brain may acquire a low specific gravity from an increased quantity of fat-globules in its tissue, while retaining its normal consistence. We believe, however, that fat tends to accumulate only in softened brain, so that possibly this source of error may not exist, but it is, nevertheless, a point of the utmost importance to determine how much of diminished specific gravity in brain-tissue is to be attributed to the effusion of serum, and how much to the accumulation of fatty matter. This question may be resolved by treating the substance with ether, and by evaporation. We are convinced that in circumscribed softening of the brain (true ramollissement), the low specific gravity is, to a great

extent, owing to the amount of fatty matter deposited. In the last case of the table given, the specific gravity of the cerebrum, generally, was 1041; while that of the softened part was 1035; and, on examination, this pultaceous substance was found pervaded with an immense quantity of fatty matter." The conditions which favor a high specific gravity are congestion and induration—those which favor a low one are œdema and fatty degeneration. A watery or œdematous condition of the brain is frequently met with in dementia and chronic insanity generally, and in such cases the specific gravity is low. It is low in the softened condition of circumscribed parts, which the microscope shows to be one form of fatty degeneration; and in other cases, in which it is low, it is probable that there is much diffused but unrecognizable fat; finely granular amorphous fat diffused in the stroma, or contained in the cells and tubes, it being highly probable that morbid degeneration of brain-substance, like that of muscular tissue, takes place by the running together of the organic elements into forms of hydro-carbon.

The pectoral and abdominal viscera present, in the insane, some pathological peculiarities which require notice.

Disease of the Heart is very common among the insane. Obstructed valvular disease is often seen in connection with simple and with hypochondriacal melancholia. Dilatation of the heart, with great irritability of the organ, and attacks of palpitation, are frequent in chronic mania; and we have observed, that this condition of the heart appears to impress its character of excessive excitability upon the mental disease, and that those who thus suffer are susceptible, irritable, impulsive, and subject to gusts of passionate excitement, but that they are neither malevolent nor refractory. In dementia, the heart is liable to undergo fatty degeneration; and in three instances we have satisfied ourselves by microscopic examination that death was occasioned by this change.

Disease of the Lungs occurs in the insane in all its varieties. It is frequently latent from the absence of cough, and the patient's absorption of mind preventing complaint. The absence of cough in serious pulmonary disease is very peculiar. In dementia it arises partly from torpor of the excito-motory system, partly from loss of attention,—from the same cause, in fact, as the frequent dirty habits of the insane. In mania it arises from the attention being intensely preoccupied by the vivid ideas and delusions which absorb the mind. We have seen many patients in advanced stages of phthisis, who were

never heard to cough so long as they were under the influence of maniacal excitement. When this underwent a temporary diminution, they were greatly troubled with cough, which was again arrested by the recurrence of excitement. The continuance of colliquative diarrhœa and perspiration, and of emaciation, proved that there was no halt in the progress of the disease, as the absence of cough has led authors erroneously to suppose. The torpor of the nervous system in dementia leads to another peculiarity in the lung and in some other bodily diseases of the insane, namely, the absence of irritative or symptomatic fever; and hence it happens, that in a demented person whose strength is unimpaired, and whose constitution is tolerably good, diseases will obtain a high degree of development, with symptoms so few or obscure as to be incredible to the general physician. It is on this account that the numerous sloughing sores to which general paralytics are liable, produce so little suffering, or constitutional irritation. We have known the stomach disorganized by cancer, without the patient complaining of any pain until a few days before death, when perforation took place. The only case of true carditis we ever saw, occurred in an insane person who complained of no pain, and in whose heart, disease was only suspected twenty-four hours before death, in consequence of the failure of the pulse. This peculiarity in the intercurrent diseases of the insane should teach the physician to observe with watchful anxiety every physical indication from which he can derive knowledge of the attack of disease, before it is so advanced as to be beyond control. Pulmonary gangrene is more common among the insane than the sane; but not to the same extent here as at Vienna, where it contributes largely to asylum mortality.

Diseases of the Stomach bear to insanity a relation of the highest importance. In acute melancholia, attended by refusal of food, its mucous membrane is frequently found to be inflamed and softened, or ulcerated, and it often requires all the skill of the most experienced physician to determine whether an inflammatory condition of the stomach is the cause or the result of the abstinence. Softening of the coats of the stomach is sometimes an effect or a concomitant of advanced cerebral degeneration. Whether the different forms of stomach disease classed under the term dyspepsia, are efficient causes in the production of insanity, by impeding the due nutrition of the body in general, and of the brain in particular, there are no reliable statistical data to determine. The probability is in the affirmative.

This, however, is certain, that dyspepsia is common among the insane, and that its removal by therapeutic and dietetic agencies is an important and efficient means of promoting the cure of mental disease. There is nothing remarkable among the insane in the pathology of the small intestines; but the large gut suffers in chronic insanity frequent and extraordinary displacements, which we are quite at a loss to explain. The most common of these displacements is that of the transverse arch of the colon to the lower part of the abdomen, from whence it again ascends to take its proper position as the descending portion. But the most extraordinary anomaly we ever met with, was the formation of a cul de sac rising from the middle part of the rectum, and ascending in front of the other intestines until it reached the ensiform cartilage, the cul de sac being nearly two feet in length. Its walls were thicker than those of the colon, and it contained all the intestinal coats. The patient in whom it occurred had ascites, and preparations were made for tapping; but percussion and palpation revealed the existence of something strange, and the operation was not performed. Had it been performed in the usual manner, the trocar would have passed into the rectum. Our friend Dr. Parsey, of the Warwickshire County Asylum, assisted us in this case, and made the post-mortem examination.

The Liver is not more frequently congested, or otherwise diseased, in the bodies of the insane than in others. The old Greek theory, that madness depends upon black bile, has no foundation in pathological fact. The only noteworthy peculiarity in the liver which we have observed, has been an apparent loss of structure, occurring in melancholia and dementia of very long standing, and in which great emaciation and prostration of vital power have long preceded death. In seven instances of this kind, I have found the liver shrunk and flabby, and its structure converted into an appearance closely resembling that of the healthy spleen. Dr. Budd describes an analogous change occurring in persons not insane, but with acute and recognizable symptoms.

The Spleen is usually small in chronic insanity.

The Kidneys are remarkably free from disease in all the forms of insanity, and the changes which give rise to albuminous urine are especially rare in them. In the whole course of our practice, we have never met with an instance of decided Bright's disease among the insane; and, upon inquiry in other asylums, we have found that the same observation has been made by others. The only case we

ever saw was in the Rainhill Asylum; but the patient, an old drunkard, was not then insane. Prior to observation, we should have expected Bright's disease and insanity to have been frequently concomitant, on account of the common influence of intemperance in the production of the two disorders; or even that the former might be the occasion of insanity, through the influence of its accompanying anæmia, and the unsecreted urea upon the brain. Renal and vesical calculi are equally rare in the insane. We have not once met with either, and only once with prostatic calculi. In this case the bladder and kidneys had become diseased from irritation, communicated from the diseased prostate.

The Reproductive Organs are frequently the seat of disease, or abnormal function. Among male idiots and imbeciles, instances of deficient or excessive development of these organs are common; and the female population of every large asylum contains several instances of that masculine development of frame and constitution which indicates an abnormal formation of the sexual organs. There can be little doubt, from the number of such instances, that the androgynous character is often accompanied by mental imbecility.

Amenorrhœa is a frequent cause or consequence of, or concurrent phenomenon with, mental disease; and its removal leads to recovery of sanity. Extreme congestion of the ovaries and uterus, with false *corpora lutea* in the former, we have found in two instances of young women who died during the excitement of acute nymphomania. Ovarian tumors are not uncommon; and at the present time two insane patients are under our care, suffering from ovarian dropsy. One has been tapped several times, to ward off the imminent danger of death from the upward pressure of the fluid on the stomach and lungs. The other, an epileptic, with the assistance of Dr. Parsey, we, tapped for the same reason, nine years ago, drawing off five gallons of porter-colored fluid; and, strange to say, the cyst has only refilled to a slight extent.

The Humoral Pathology of Insanity.—The qualitative analysis of the blood of the insane has been made a subject of investigation by some German and French physicians. Although the somewhat difficult manipulations needful to obtain accurate and trustworthy results in an investigation of this kind, may be a severe test of the chemical abilities of alienists, we must admit that the uniformity of the gross results obtained by several independent inquirers, are sufficient to justify the important conclusion, that the condition of

the blood of the insane is opposed in character to that which is found to obtain in inflammatory diseases, and that it approximates to that found in non-inflammatory neuroses, and in febrile affections. Hittorf, of the Siegburg Asylum, analyzed the blood of seven patients suffering from acute mania; the results he obtained were, that in six out of the seven cases, the fibrine was below 2·5, the percentage of fibrine given by Becquerel and Rodier as the amount of this substance in healthy blood; that, in the same number of cases, there was a diminution of the globules; and, in five out of the seven cases, there was an increase of water. In Hittorf's analysis of healthy blood, however, the amount of fibrine is marked as low as 1·4. This disagreement with the result obtained by physiological chemists of reputation, is sufficient to detract from the value of his conclusions.

Erlenmayer has analyzed the blood of patients suffering from various forms of mental disease. The conclusions he arrives at are, that the venous crasis, *id est*, the increase of globules, is very rare among the insane, and principally occurs in idiocy and delirium tremens; and that the fibrinous crasis, *id est*, increase of fibrine, is equally rare in cases of insanity free from complications which would tend to modify the proportions of this constituent.

M. Michea, who has investigated the condition of the blood in general paralysis, found that, in the majority of cases, there was an increase in the number of globules; in the majority, also, the quantity of fibrine was normal, in some it was diminished. The inorganic matter of the serum representing the albuminous constituent was diminished in little less than one-third of the cases; from which he infers, that "the spontaneous diminution and the insufficient formation of the albumen of the blood, are the immediate causes of a certain number of the cerebral effusions which occur in the paralytic insane."

The analysis which Becquerel and Rodier obtained of blood in acute inflammations (*Path. Chem.* p. 105) shows a proportion of fibrine of 5·8 per cent., the normal standard being 2·5; a decrease of globules from the normal standard of 135 to 123·3; a decrease in the albumen of the serum, and also the alkaline salts; and an increase of fatty matters. In encephalitis, Poggeolli and Marchal found the fibrine increased to 6·08, and the globules decreased to 106·05, affording a remarkable contrast to the proportion of these constituents found by Hittorf in acute mania; the highest amount of fibrine

found by the latter being 2·03, and the lowest amount of globules being 109·191.

The condition of the *Urine* in insanity has been carefully investigated by Dr. Sutherland, to whose valuable papers on this subject in the Medico-Chirurgical Transactions of 1844 and 1855 we must refer our readers. A comparison of the results obtained by him, with those of Dr. Bence Jones, in his inquiry respecting the proportion of phosphates in the urine of phrenitis, delirium tremens, and general paralysis, is highly instructive.

In four out of five cases of acute mania, Dr. Sutherland found the proportion of phosphates above the mean quantity present in health; in the fifth case it was nearly of the healthy standard. In one case it was as high as 9·73, being nearly equal to that found by Dr. Bence Jones in delirium from fracture of the skull. Dr. Sutherland believes, however, that this excessive elimination of the phosphates is rather a measure of the consumption of nerve-force than of inflammatory action. The results of treatment, of blood analysis, and of post-mortem investigation, prove to him that the condition of the brain in mania is not inflammatory.

In acute dementia the amount of the phosphates was remarkably deficient. It was lowest when the mental faculties were most feeble. In one case, the proportion was 2·49, when the powers of the mind were in abeyance; when they again began to be exercised, the proportion increased to 5·1. In another case, when first examined, the proportion was 5·23; but as the disease advanced, and when the patient was unable to comprehend what was said to her, the phosphates fell to 2·37.

In general paralysis there was great deficiency of the phosphates, these falling, as the disease advanced, from 3·42 to 1·57. In chronic mania and chronic dementia the amount of phosphates was below the average in every case but one, a patient in whom the powers of the mind were little impaired. Dr. Sutherland thinks that these results correspond in a very interesting manner with the analysis of the brain and of the blood in mental diseases. The tissue from which the phosphates are eliminated is the albuminous; and, according to L'Heritier, the brain of infancy and old age, compared with that of the adult, presents a minus quantity of albumen, fat, and phosphorus; while, according to Couerbe, there is a plus quantity of phosphorus in the brain of acute mania.

In the reaction of the urine, the observations of Dr. Sutherland

are opposed to those of Erlenmayer, who, in his thesis "De Urina Maniacorum," states that the urine is generally alkaline in recent cases of mania. Dr. Sutherland found that, in 125 cases of recent mania, admitted during two years at St. Luke's, the urine was acid 111 times, alkaline 13 times, neutral 1; and that, in 100 cases of chronic mania and dementia, it was acid 61 times, neutral 6, and alkaline 33 times; in 25 cases of paralysis of the insane it was acid in 12, neutral in 1, alkaline in 12.

The Pathology of General Paralysis.—This interesting, but hopeless form of disease, may be said to have been unknown until it was fully described in the admirable "Memoire" published by Calmeil, in 1826. Haslam, it is true, in his "Observations on Madness" (2d edit. 1809, p. 259), refers to its symptoms in a manner which can leave no doubt that their peculiarity had engaged his attention; but no further notice was taken of it until Bayle's thesis, in 1822, and Calmeil's work in 1826, called to its remarkable phenomena, the attention of all medical men practising in lunacy. Notwithstanding the frequency of its occurrence, and the large proportion which it contributes to the mortality of the insane, it cannot be said, even at the present time, to be well known to the profession at large. In his eleventh Lecture, Dr. Conolly states that he had never noticed it until he read Calmeil's work; and that "although we are familiar with this form of disorder in asylums, and learn to recognize its earliest appearances, I frequently find its existence unrecognized or unknown, when attending private cases."

The following are Calmeil's conclusions respecting the pathology of this disease:

"1st. The alterations found within the skull of patients dying from general paralysis (namely, injection and wearing away of the bone; injection of the dura mater, and separation of its fibres; effusion of serosity into the cavity of the arachnoid; false membranes, organized and not organized; cysts filled with blood between its two laminæ; simple arachnoidean hemorrhage; œdema of the meninges; vegetations of the pia mater; injection and thickening of the membranes; development of their bloodvessels; adherences between the pia mater and the cerebral convolutions; removal of the gray substance; softening, induration, increased color, and injection of the same substance; consistence and injection of the white substance; redness and injection of the ventricular villosities [query, choroid plexus]; serosity in the ventricles; apoplectic cysts; erosions of the

convolutions; a nucleus [noyau] of an unknown nature; softening either of the brain or of the spinal marrow), do not sufficiently explain the symptoms observed during life.

"2d. One is compelled to avow the insufficiency of these alterations, on account of their not being constant, and on account of their being found in patients who were not paralytic, and in the progress of whose disorder there had been no resemblance to the one peculiar to general paralysis.

"3d. Nearly all these alterations, examined with impartiality, indicate the existence of a chronic phlegmasia in the encephalon, which exerts its principal ravages on the superficies of the convolutions, on the gray substance, and the envelopes of the brain.

"4th. The conclusion, therefore, is permitted, that it is a chronic inflammation [*phlegmasia*], which gives rise to general paralysis by determining to the brain a single modification [*modification identique*], which we have not known how to appreciate; and which, independently of the changes recorded, may have existed in all the individuals whom we have dissected.

"5th. That if it happens in a case of general paralysis that the brain presents no appreciable trace of inflammation, this would be no certain proof that inflammation had not existed. After having existed during a certain time, it might have disappeared; the alteration which it had occasioned, and from which the general paralysis resulted, might continue to embarrass the movements.

"6th. General paralysis will always offer specious arguments to the partisans of nervous paralysis. Convinced that a function may be injured, without the organ being so upon which it is dependent; seeking to establish the opinion that the cerebro-spinal system may remain sound, even when the voluntary movements are abolished, they select those cases of general paralysis where the sole cadaveric results have been, for example, only some infiltration into the meninges, some accumulation of serosity between the laminæ of the arachnoid, some injection and discoloration of the gray substance, some granulations of the membrane of the ventricles; and they maintain that these results are not sufficient to cause such grave symptoms. In vain may we invoke the existence of an inflammation, which, upon an organ so frail as the brain, would exercise a fatal influence: they demand the demonstration of the changes whose existence we admit; and since, in this respect there is a real difficulty in satisfying them, they place the advantage to their side."

Such are the conclusions, on the pathology of this disease, to which the author comes, from whose admirable monograph it first became known to the medical world. Further research has made no important addition to his careful observations; and although we cannot accept the interpretation which he gave, in the spirit of the prevailing Broussaism of his day, that the changes he found were the result of a chronic inflammation, we may admit the soundness of the broader proposition—that the disease depends upon "some one modification of the brain whose nature we have not yet learned to appreciate."

Other French alienists attribute the pathological cause of this disease to changes still more special and limited than those alleged by M. Calmeil. Thus, Bayle, with whom Esquirol concurs, attributes it to a chronic form of meningitis. M. Delaye, to induration of the medullary substance. M. Bottex affirms that the meninges are always adherent to the cortical substance, and that any alteration in the medullary substance is rarely observed. M. Parchappe attributes it to the softening of the middle layer of the cortical substance, which permits the ready separation of the external layer. M. Belhomme confirms the alterations reported by others, in the superficial parts of the cerebrum, but adds, that the changes originating them extend gradually to the very centre of the organ. These discordant opinions lead necessarily to the inference, that the pathology of this disease is yet purely a matter of surmise. That degraded conditions of nutrition are commonly found in the brains of persons dying of general paralysis, is about all that can be stated as actual and reliable fact. The arachnoid is found opaque, but not so notably changed as to indicate the previous existence of inflammation, in the common acceptation of that term. There is atrophy, and subarachnoid dropsy. The gray cortical substance is obviously thinner than in health. The medullary substance is often discolored with pink mottling, or presents a slight shade of brown or gray. Its specific gravity is always diminished, a fact pointed out by the author in the Report for the Devon Asylum, for the year 1851, and more fully proved in his paper on the Pathology of Insanity, in the 29th Part of the *Medico-Chirurgical Review*. In the above-mentioned Report, the author expresses his opinions on the pathology of this disease as follows: "I believe that General Paralysis is essentially *a disease of nutrition, affecting the whole nervous system*,—that nerve-matter, both in the vesicular and tubular portions thereof, is imperfectly pro-

duced,—and that the cerebral or generative, and the conducting functions are consequently interrupted. If chemical research should inform us hereafter of what pure neurine consists, it may perhaps be enabled to show that, as in rickets, the utility of the osseous system is injured for want of certain earth-salts; so, in this disease, the atrophy observable in the gross mass of nerve-tissues, and the general decay of function, depend upon want or change in the quantity or quality of the neurine." We adhere to this opinion, which we believe justified by the fact first ascertained by the author, and published in the above-mentioned Report, that, "in the paralysis of the insane, the irritability of the muscles and the excito-motory function of the nerves are nearly lost; in ordinary paralysis, whether dependent upon lesion of the spinal cord, or of the brain, these functions are retained. I think this point important, as it tends to prove that the cause of this disease is not localized in any one portion of the cerebro-spinal axis, but consists in some morbid change, pervading the whole nervous system, and probably implicating the distal fibrils."

That this disease consists in some vice of nutrition, whose nature is yet unknown, but whose extent embraces the whole of the nervous system, and is by no means limited to the encephalic centres, is a view which also appears to us to derive support from the atrophied and changed condition of the spinal cord. In the above-mentioned Report, the author states, "I have made numerous examinations of the spinal cord, and always have thought that it presented a less diameter than ordinary. As, however, I could not verify the rough estimates of the unassisted senses by any satisfactory appliances of measure or of weight, I am unable to advance my knowledge of this fact as satisfactory or conclusive. Satisfactory proof that the spinal cord is atrophied would be of great importance; for, whilst most of the changes observed in the brain itself are common to other morbid conditions, it would probably be found that atrophy of the cord, in addition to these changes, is peculiar to this disease."

Since this was written, we have paid much attention to the condition of the spinal cord in general paralysis. We have weighed the medulla oblongata, and the upper portion of the cord, in many instances; but, although our conviction is that its absolute weight is greatly diminished, the want of a trustworthy normal standard of comparison incapacitates the proof. The white fibrous matter of the medulla and the cord have appeared to us indurated, as well as diminished in volume, while the columns of gray substance in the

cord and the gray matter of the olivary bodies, have presented a deeper color, often tinged with brown, and a softened consistence. The membranes of the cord, also, have, in many instances, been rougher than usual, often accompanied with a dark-gray discoloration.

Such are the gross changes which have presented themselves to us. When the microscopist and the chemist have succeeded in demonstrating the fundamental changes of structure which undoubtedly exist in the special nervous system, in such diseases as tetanus and hydrophobia, we may expect their invaluable aid in the elucidation of the true nature of the pathology of the interesting disease under our present notice.

CHAPTER X.

TREATMENT OF INSANITY.

General Observations.—The treatment of Insanity may be considered under three heads or intentions,—the Hygienic, the Moral, and the Medicinal. These domains of medicine, indeed, are by no means so distinct that it is always possible to say of means resorted to with a curative intention, whether their influence belongs to one or the other. Thus, the removal of a patient from home is hygienic, inasmuch as it removes him from the causes of disease,—and moral, inasmuch as it produces novel mental impressions, which are often of much service in the treatment. A blister to the nape may be thought purely medicinal; but there can be no doubt that sometimes its moral effect is not insignificant by attracting the attention of the patient from a morbid idea to a new sensation. The three intentions are, however, sufficiently distinct to render their separate indication useful in classifying the various means employed in the treatment of mental diseases.

The sufficiency of the moral treatment of insanity is maintained by some authors, in support of the spiritual hypothesis of the nature of insanity. It emanates from, and is consistent with, this hypothesis; whose most recent exponent is no less eminent a person than the President of the Royal College of Physicians. But it is Dr. Leuret, a French physician, who, with that hardihood of logic which so frequently distinguishes his countrymen, has carried this opinion into practice, in a treatment of his patients respecting the moral character of which there can be no doubt. He combats delusions with stern rebuke and with severe punishment; in fact he applies to his patients, at the present day, the same principles of treatment as those which are recorded in the pages of Don Quixote, in the case of the madman of Cordova: "There was a madman in Cordova, who had a custom of carrying on his head a piece of a marble slab or stone, not very

heavy; and when he lighted upon any careless cur, he got close to him, and let the weight fall plump upon his head; the dog is in wrath, and limps away barking and howling, without so much as looking behind him for three streets' length. Now it happened that, among the dogs upon whom he let fall the weight, one belonged to a cap-maker, who valued him mightily: down goes the stone, and hits him on the head; the poor dog raises the cry; his master seeing it, resents it, and catching up his measuring yard, out he goes to the madman, and leaves not a whole bone in his skin; and at every blow he gave him he cried—'Dog! rogue! what, abuse my spaniel! Did you not see, barbarous villain, that my dog was a spaniel?' And, repeating the word 'spaniel' very often, he dismissed the madman, beaten to a jelly. The madman took his correction and went off, and appeared not in the market-place for above a month after; at the end of which he returned with his invention, and a greater weight; and coming to a place where a dog was lying, and observing him carefully from head to tail, and not daring to let fall the stone, he said, 'This is a spaniel; have a care.' In short, whatever dogs he met with, though they were mastiffs or hounds, he said they were spaniels, and so let drop the stone no more."

This was moral treatment; and although it does not appear to have cured the disease, it succeeded in repressing its objectionable manifestation; and success to this extent it is probable that M. Leuret obtained, in the treatment of delusions by means of the douche. It is not to be supposed, however, that the President of the College of Physicians, or any other English physician of reputation, understands by the moral treatment, which they advocate, the use of means like the cap-maker's baton at Cordova; or the rotary chain once in common use, but which fell into sudden disuse on the occasion of a death during its administration; or the douche, the plunge-bath, or the prolonged shower-baths, which are still too much used in this country. Doubtless they mean to designate, by the term, all that portion of the improved cure and treatment of the insane which is not pharmaceutical. Doubtless they mean, for instance, that the removal of a patient from the cares of business, or from family anxieties,—surrounding him, in a cheerful country residence, with new scenes, new faces, new objects of attention and subjects for thought,—affording occasion for the exercise of those organs of the mind which are not diseased, and of repose for those which are—doubtless they consider all this moral treatment. Whether it is entirely so, an obvious

analogy may help to determine. Professor Laycock maintains analogy to be the essence of medical logic. It is, at all events, an important aid in medical reasoning, and may help, in this instance, to determine the right signification of a term whose wrong use has led, and is likely to lead, to serious errors. A merchant, with a hardy cerebral organization, but with a feeble stomach, suffers great anxiety from the fluctuations and losses of commerce; he loses appetite and digestive power, becomes emaciated and generally out of health. A physician, who recognizes the form of disease as nervous dyspepsia, recommends his patient to realize and retire, or to become a sleeping partner only in business; and to occupy his time in travelling, or yachting, or sporting, or farming. He lays down some dietetic rules, and insists upon repose of mind and muscular exercise, the pure air of the country, and cheerful occupation. Under this regimen, and without the use of one dose of medicine, the patient shakes off a chronic disorder which had for years rendered life miserable, becomes robust in appearance and in fact, and able to dine at Swindon, in ten minutes, off pork pies and porter. Is this to be called the moral treatment of dyspepsia? It is the very analogue of the treatment under which another mercantile man—who, inheriting a stronger gastric organization, but a more feeble cerebral one—and who had become insane, from the same sources of nervous excitement and exhaustion, recovered under our care, without any aid from the pharmacopœia. Is that sensible part of the hydropathic system, which consists in cheerful society and regulated habits, to be called moral treatment? If so, the whole of the treatment of the insane which is not medicinal is rightly called moral; but not otherwise. Some cases of insanity may, undoubtedly, be treated successfully without the aid of pharmacy; but it is of the utmost importance to recognize the agencies which are employed, in their just character, and by their right names; otherwise a very mistaken idea of the nature of insanity, and of the treatment which is generally proper for it, is likely to arise—has in truth arisen, and needs to be refuted. Thus, we find in the number for July last of the *American Journal of Insanity*, an experienced physician declaring that "he always acted upon the presumption that the patients needed no active treatment. The insane hospital is to the insane what the splint and bandage are to the fractured limb—merely to insure quiet." But insanity is not quite like a broken limb, and the processes by which recovery takes place are more complicated than the mere growth of new bone. Quietness

is all that is needed to set a broken bone, because it is known that with quiet the pathological processes are certain to be reparative; but it is not always so in brain diseases. Would the writer recommend quiet (the coma of opium) because it is needful in enteritis? The emotional repose, the intellectual diversion, which are now sought to be obtained in well-conducted establishments for the treatment of the insane, are not, strictly speaking, moral agencies; they constitute physiological measures taken to procure functional repose for a vitiated and diseased organ. In some proportion of cases where the malady is not profound, they may result in recovery. Pinel himself says, that before resolving upon any principle of treatment, he was in the habit of at first limiting himself to the most simple means, and, in many cases, of allowing the malady to run what appeared to be its natural course, in order that he might thus be able to determine all the curative resources which Nature could develop when she is not impeded by factitious obstacles. Such a rational method of proceeding is not moral, but physiological; it is not opposed to medicinal treatment, but perfectly consistent with it; it resembles the expectant delay which every wise physician will adopt in the treatment of diseases whose nature is not acute, and whose symptoms are not urgent, after he has surrounded his patient with favorable sanitary conditions, and before he commences active interference.

The doctrine which the author has maintained in the *British and Foreign Review* (Nos. 24 and 25), respecting the emotional origin of insanity, is by no means adverse to the opinion that moral agencies, properly so called, possess but a limited efficacy in its treatment. The emotional theory, which he believes to be the true explanation of the metaphysical nature of insanity, goes to prove this,—that emotional disturbance is the frequent source and the constant accompaniment of mental disease. It is opposed to the theory upon which the dogmas of the English Courts of Law have been founded,—that insanity is a perversion solely of the thinking faculties; but it is quite consistent with, and indeed subservient to, the opinion,—that the proximate cause of all mental disease is to be referred solely to the abnormal state of the brain.

Some brief references to the principles of treatment laid down by a few authors whose authority stands highest in psychological medicine deserve notice before we enter into detail. In more than the abolition of chains, and the rescue of asylums from the worst kind of the old prison discipline, to that of a hospital for the cure of disease,

Pinel was the father of the modern treatment of insanity. The interest which attaches to authors before his day is of an antiquarian, rather than of a scientific kind, and his writings and practice very thoroughly effected that necessary part of all great reforms,—the attack and thorough loosening of abuses, which others must abolish before the work of reconstruction can commence.

Pinel's first chapter on treatment is, "On the Practice of Beating the Insane, as a Means to Promote their Cure." Well may he commence with the exclamation,—"One must deplore the fate of mankind, when one reflects upon the frequency and the multiplied causes of insanity, and the numberless circumstances which may prove disastrous to those who suffer from it, even in the best organized constitutions." He refers to the dogma of Celsus, that when the madman "has done or said anything outrageous, he is to be coerced with hunger, chains, and stripes,"—to the account which Dr. Gregory gives, of the Scotch farmer, of Herculean stature, who was famous for the cure of insanity, by a method of hard labor, and who reduced his patients to obedience by a shower of blows, on the least show of resistance, and he says, that Dr. Willis permitted his attendants to return blows for blows, in a manner "which gave to their brutality an independent and dangerous latitude." Let not these imputations on the treatment of the insane in this country surprise us, when we find the following principles of treatment laid down in Cullen's "Practice of Physic."

"Fear, being a passion which diminishes excitement, may therefore be opposed to an excess of it; and particularly to the angry and irascible excitement of maniacs. These being more susceptible of fear than might be expected, it appears to have been commonly useful. In most cases, it has appeared to be necessary to employ a very constant impression of fear; and therefore to inspire them with that awe and dread of some particular persons, especially of those who are to be constantly near them. This awe and dread is, therefore, by one means or other, to be acquired; in the first place, by these being the authors of all the restraints that may be occasionally proper; but sometimes it may be necessary to acquire it even *by blows and stripes*. The former, although bearing the appearance of more severity, are much safer than strokes and blows about the head." This, without doubt, was moral treatment after the fashion of the day. Pinel even does not quite shake himself clear of the idea that it was desirable to frighten a poor lunatic. He says:

"I have shown the nature and happy effects of the ways of kindness, in some cases of the *use of fear*—of a firm opposition to the dominant ideas and obstinacy of some insane persons, or a courageous and imposing determination, devoid, however, of all outrage, exempt from anger and animosity, and consistent with the sacred rights of humanity. This conduct differs widely from the coarse harshness, the blows, the wounds, yea, even the atrocious and sometimes murderous treatment, which occur in asylums for the insane, where the keepers are not restrained by the most active and severe supervision." This bold physician, however, knew how to call brutality by its unsophisticated name. In his chapter on "Sudden Immersion in Cold Water as a Means of Cure," he describes Van Helmont's plan of keeping a patient under water until he was nearly drowned, in order that his extravagant ideas might be destroyed, even to their primitive traces,—an object which, according to this physician, could not be gained, except by obliterating these ideas by a state bordering upon death (idcirco inveniendum erat remedium quod posset occidere, necare, tollere, aut obliterare præfatam illam amentiæ imaginem). "One must blush," says Pinel, "at this medical delirium, worse, perhaps, than that of the madman whose reason it was to restore."

Pinel was in a position to criticize such enormities with unflinching severity, since he could affirm that his own attendants never raised a hand against a patient, even in reprisal; that the strait-waistcoat and seclusion were used as little as possible; that the repression he used was devoid of rigor, and in degree not exceeding the occasion, as was often proved by the patient's yielding to it with frank and friendly explanation; and that even the fear which he thought so useful in the moral treatment of his patients, was a sentiment to which esteem could ally itself immediately that reason resumed its sway. Fear, conjoined with love, are the elements of veneration. It is no wonder that Pinel's patients were capable of entertaining this high sentiment towards him, for it is the one which, at this distance of time, we feel that his whole character was calculated to inspire.

Pinel's chapters on treatment, however full as they are of vigorous denunciation of the absurdities and cruelties which passed for treatment in his time, yet leave the impression that he had only been able to advance so far in the right path as to distinguish that which was decidedly wrong, without being able to found a system to replace the one which he demolished. He replaced, indeed, the brutal and cruel

usages which were formerly employed in the custody of the insane, with a method which, although far from being so gentle and indulgent as that which prevails in the best asylums at the present day, was nevertheless animated by a true spirit of benevolence, and of that sound common sense which is its best ally; he not only did this,—and, in doing so, he denounced baths of surprise, douches, and other painful modes of treatment,—and ridiculed the "*polypharmacie monstreuse*" of his immediate predecessors in the treatment of insanity. "Books of medical men," says Montesquieu, "are monuments of the frailty of human nature and the power of art, which make us tremble when they treat even of the most trifling maladies, so much do they hold death up to us; but, when they speak of the virtue of remedies, they place us in entire security, as if we were immortal!"—This subtle criticism, so applicable to the mass of medical writings which adorn or burden our libraries, cannot but recall itself to one's memory when one constantly meets with, in works upon mania, such empty terms as intemperature of the brain, the preparation of the humors before their evacuation, the seat of the peccant matter, and its so-called evulsion or repulsion, &c. Are these very philosophic reflections not justified by a long catalogue of powders, of extracts, of juleps, of electuaries, of draughts, of cataplasms, &c., destined to triumph over mental disease? And what ought one to think of the law so religiously kept, even down to our day, of bleedings without distinction either of the exciting causes, or of differences of sex, or of individual constitution, or of the diverse kinds of insanity, or of the stages of the disease?

Pinel proposed to himself the task of assigning the proper limits to medicinal treatment, "since frequently our expectant method, seconded by a moral and physical regimen, suffices to cure, and in other cases the evil is beyond all resource." Doubtless, the discontinuance of glaring abuses, and the substitution of a rational expectancy for a "*polypharmacie monstreuse*," "for the errors of a doctrinism full of prejudice and hypothesis, for the reign of pedantism and ignorance," was a change entirely beneficial. But it indicates a task half completed. Rarely do the fates permit that the same hands shall destroy and reconstruct; and Pinel was compelled to leave it to his successors to bring the treatment of insanity within the domain of scientific medicine. The man upon whom his robe especially fell, was his eminent pupil Esquirol. To him we owe a considerable advancement towards a good analysis of mental diseases.

An accurate observer, and an elegant writer, he recorded the symptomatology of these affections, in a manner which has never been surpassed. Faithful to the humane traditions of his great master, he adhered to his general method of care, while upon that of his treatment he made important advances. Esquirol had the advantage not only of the clear field for the exertion of the medical art which had been provided by Pinel's reforms, but he had that of being aided in his labors by the observation and experience of other devoted workers. Thus, Bayle and Calmeil made him acquainted with general paralysis, and gave him a power of prognosis of the utmost importance in treatment, which his predecessor did not possess. A systematic exposure of the ignorance of others is not an amiable mode of making known our own knowledge; but the nature of the errors combated by another author is sometimes the best criterion which his works afford of the existing state of general opinion on the subject of which he treats. Thus, we do not find Esquirol debating the propriety of treating insanity with the violent means recommended by Celsus and Cullen. Far in advance of this, he combats the ignorant notion which views insanity as one disease: "In order to establish the basis of sound therapeutics in the treatment of mental alienation, it will be necessary to recognize all the general and individual causes of the malady; to distinguish by certain indications the source from whence the disorder has its rise; to determine whether the physical reacts upon the moral nature, or the moral upon the physical; to decide what varieties undergo spontaneous cure, those which demand moral remedies, those which require medical ones, and those which only yield to a mixed treatment."

"What misfortunes and obstacles must those practitioners have encountered who have been only able to see one individual disease in all the insanities which they have had to treat! They were not ignorant that, delirium being symptomatic of almost all diseases when approaching a fatal termination, insanity might be also entirely symptomatic; they were not ignorant that there are instances of insanity evidently sympathetic; they knew that a thousand exciting and predisposing causes give rise to insanity; but paying no attention, except to the most obvious symptoms, they have permitted themselves to be imposed upon by the impetuosity, the violence, the mobility of these; they have neglected the study of the causes of insanity, and that of the relation of the causes with the symptoms. Under the domination of theories, some have only been able to see the existence of inflam-

mation, have accused the blood, and abused the lancet; others, believing in irritating bile, have checked the secreting organs and injured their functions. They have been prodigal of emetics and drastics. Some, having only taken into account the nervous influence, have given antispasmodics in excess. All have forgotten that the practitioner ought to have present to his mind grand general views—the systematic ideas which dominate, which constitute medical science, the art which ought especially to devote itself to a thorough knowledge of the circumstances and of the symptoms which are capable of disclosing the causes, the seat, and the nature of the malady which it has to combat." "Often one must vary, combine, modify the means of treatment, for there is no specific treatment of insanity. As this malady is not identical in all persons, so it has in every individual its different causes and characters; so new combinations are required, and a new problem is to be solved, for each insane person under treatment."—(*Maladies Mentales.*)

To have been the first to lay down the above sound principles of treatment was a great merit, and one scarcely to have been expected from a physician whose belief in the pathological foundations of psychological science were at least feeble. The above broad and just views of the treatment of insanity, are as needful to urge at the present day as at the time they were written; for although specific drugs are out of vogue, narrow and stereotyped modes of treatment are scarcely less in favor, or less dangerous. And in no class of disease does the treatment need to be more infinitely varied than in insanity. In other wide classes, some broad rules may be laid down for the treatment; and although physicians may differ respecting these rules, they will be found to adhere to one or other set of opinions respecting them. Thus, one feeds in fevers, another depletes; but in insanity, cases which present symptoms, at first sight, of close resemblance, demand most opposite modes of treatment; and cases which at first present symptoms most unlike, sometimes require to be treated in the same manner. An educated and exact observation is required to distinguish between the acute delirium which arises from cerebral hyperæmia, and that which arises from cerebral excitement in sympathy with intense irritation of some part of the periphery of the nervous system; or from the cerebral excitement which is but an expression of the defective nutrition of the organ from poverty of blood; or cerebral excitement propagated to all parts of the organ from some focus of irritation, some *foyer* of disease in itself—as a

small portion of inflamed substance or membrane, or the structural mischiefs surrounding an apoplectic clot. In all these instances the symptoms may bear a strong resemblance to each other, and yet how different is the mode of treatment demanded in each of them!

The Medicinal Treatment, therefore, must be founded, not upon the general resemblance of symptoms in different cases, but upon their points of dissemblance, and upon the discrimination of ultimate diagnosis; not the primary diagnosis which recognizes a case of insanity, but upon the ultimate diagnosis which, as nearly as possible, refers the symptoms of each individual case to the exact pathological condition from which they arise.

The medicinal treatment of insanity may conveniently be classified into that of the acute and the chronic forms of the disease,—into that whose aim is curative, and that in which it is only palliative; and again, in the former, into that which is directed to the urgent symptoms of the outbreak in which the disturbance of the organization is a prominent feature, and that of the more tranquil period which often succeeds between the outbreak and the convalescence, in which, after the apparent subsidence of the physical disturbance, the various forms and derangements of the mental functions are often the only obvious symptoms of cerebral disease.

In the medicinal treatment of all cases of insanity, the following objects have to be kept in view:

1st. To obviate any general derangement or diseased condition of the system.

2d. To remove the pathological condition of the brain, whether consequent upon, or independent of, general physical disturbance.

3d. To treat urgent and dangerous symptoms.

Sometimes the measures adopted to fulfil the first of these intentions embrace the second also; for instance, where the measures adopted to relieve a state of general plethora or anæmia relieve the same state in the cerebral organ. Sometimes the measures required to fulfil the first and second intentions are to some extent antagonistic; for instance, where, with general debility of the system, there is local hyperæmia of the brain, and leeches with cold lotions to the head are found to be practically consistent with the use of nutritious food and stimulants. Sometimes there are no indications to guide the treatment towards the first intention, and the second becomes the prominent one. This is especially the case in the second period of recent insanity, and in the chronic forms of insanity, where, in the

absence of any general disturbance of the system, the symptoms fairly point to a pathological condition of the brain.

Sometimes, in the absence of symptoms both local and general, the fulfilment of the third indication is the only one which can be attempted. Doubtless, in every single case of insanity, there exists some pathological condition in the organ of mind; but in the absence of symptoms pointing to the nature of this condition, the physician must avoid interference which may be mischievous, and be content to temporize; must be satisfied with removing the causes of irritation and excitement, and retaining his patient in an atmosphere of physical and moral hygiene.

Bleeding.—In passing from these general principles to particular descriptions, the question meets us, whether bleeding is ever permissible in the treatment of insanity? We have seen that it is condemned without stint by Pinel and Esquirol, and it would be easy to cite a number of authorities who have followed in their track. Dr. Pliny Earle has recently done good service to psychological medicine by the publication of his useful essay on this subject.

Before the time of Pinel, the insane were bled frequently and promiscuously, and it was said the most beneficial results were derived from the practice. Pinel's condemnation did not put a stop to it, and we learn from Dr. Earle that his book was greatly needed in America, in order that some check might be put to the mischievous results of Dr. Rush's teaching on this subject. The French authors cited, state that they have frequently observed cases which appeared to be curable, pass into incurable dementia in consequence of venesection. It is no wonder that abuse of treatment so flagrant should result in a universal condemnation of it; and, in this country, at least, the treatment of insanity by general bleeding has passed into universal disfavor and disuse among all who can be considered authorities on the subject. The treatment of insanity described by the medical officers of asylums, in the "Further" Report of the Commissioners in Lunacy, 1847, contains no instance in which general bleeding is recommended. We have never used the lancet in the treatment of insanity, but we must admit that cases do present themselves in which we have felt it our imperative duty to use leeches to the temples and cupping to the nape of the neck, to such an extent that the effect on the general system would not be much less than that of a moderate bleeding. One ought always to be suspicious of a universal general rule, and more especially so when it has been

adopted in opposition to a previous rule of the same character. It is very easy to save ourselves the trouble of thinking, by giving in our adhesion to a dogma; and the man who, at the present time, is most ready to affirm, with inflexible pertinacity, that in no possible case of insanity is it right to bleed, would, had he lived seventy years ago, have been the man most likely to affirm that no case of insanity can be rightly treated without such bleeding. This, however, is not the spirit of philosophy, or even the courage of good sense which has the will and hardihood to think for itself. Men love to run into extremes; but when most in extremes, let us remember, that they are never altogether right, and never altogether wrong. It is probable, therefore, that although our forefathers were wrong in their abuse of the lancet, we are not altogether right in looking upon it as *taboo*.

Acute mania is not divided from inflammatory action of the brain and its membranes by any sharply drawn recognizable line of demarcation. On the contrary, some few cases of meningitis approach very closely in their nature and symptoms to the character of acute mania; and some cases of acute mania are accompanied by symptoms which indicate that cerebral hyperæmia is so great in degree, and active in character, that a considerable abstraction of blood, by leeches or cupping-glasses, is the least that can be done with judgment to relieve it. Between the employment of local bleeding of this kind, and moderate general bleeding, no great question of principle can possibly exist.

Let it not be thought that the author recommends bleeding in the treatment of insanity. The fact that, in the treatment of some two thousand cases, he has never yet used the lancet, is perhaps a proof that he has been, to some degree, under the influence of a general prejudice. The principle advocated is this, that no manageable remedy ought to be excluded from the treatment of a large and diverse class of diseases. The infinitely varied conditions of disease demand the occasional employment of every influence which can be guided in its action upon the organization and its functions. The physician will act wisely in definitely rejecting the use of no manageable force of which he has knowledge. Esquirol exclaiming against the use of the bath of surprise, which was said to have effected cures, said justly enough: "I should as soon think of recommending patients to be precipitated from the third story of a house, because some lunatics have been known to be cured by a fall on the head."

The bath of surprise and precipitation are not manageable remedies, or remedies of the nature of whose operation we have reliable knowledge. But with bleeding it is otherwise, and it ought not to be wholly expunged from the list of remedies which may be successfully employed in combating acute cases of mania. It would appear to be justified when, in addition to the symptoms of acute cerebral hyperæmia which are not uncommon in acute mania, to heat of head, suffusion of eyes and face, throbbing of carotid and temporal arteries, &c., there are superadded the symptoms of inflammatory action within the cranium, together with accompanying febrile reaction. Such symptoms are presented by irregular contraction of the pupils, by squinting, by convulsive twitchings of the muscles of the face and arms ; by a hard, full, and bounding pulse ; with hot and dry skin, and the general characteristics of synocha. That such cases occur very rarely, is the greater reason why the practitioner should be forewarned that they do occur ; since their prompt, active, and judicious treatment is a matter of life and death.

The above views, which, in the present fashion of non-depletion in all cases, are likely to meet with objectors, have the support of a physician little likely to be suspected of any tendency to rash treatment. Dr. Conolly, in his second lecture (*The Lancet*, Oct. 18th, 1845), says of *free* bleeding, " Cases do occur in which it is useful, but they are very rare. In six years' experience at Hanwell, I have not seen any encouragement to order bleeding in a single case." But, he adds : " In certain cases, in which the patient is of a vigorous constitution, and a first attack of insanity has come on suddenly, like a sudden delirium, and is not the consequence of intemperance, I have no doubt that a single bleeding, with the administration of an aperient, followed by a few doses of antimonial medicine, will effect a speedy cure ; but this is not a frequent form of attack." In the treatment of acute mania he says, " Local bleeding is generally not only admissible, but extremely serviceable. We are in the habit, in this asylum, of applying leeches instead of cupping ; although it is probable that cupping to a moderate extent would be useful in some cases ; but relief is almost always obtained by applying from twelve to twenty-four leeches to the head ; usually to the upper part of the forehead, where pain is commonly complained of; and sometimes behind the ears, or behind the neck. I have never known such application productive of mischief ; and it may be repeated in a few days, and occasionally afterwards, withal most invariable benefit when pain and heat of the head are present, or recur."

Tartrate of Antimony.—There has been almost as much difference of opinion, of late, respecting the mode of using, and the benefits to be expected from tartrate of antimony, as on the subject of bleeding. Dr. MacFarland, at the last meeting of the American Association of Alienist Physicians, said, that he had trusted that tartrate of antimony was "lying in the same grave where venesection had been buried long ago."

The late Dr. Burrows speaks of the benefits to be derived from its use, and mentions the large dose of thirty grains to have been given without producing vomiting. In the "Further Commissioners' Report," above referred to, a large proportion of the reporters mention this drug with approbation. Many writers state, that the benefits to be derived from it are procured by keeping the patient in a state of nausea, and thus overcoming his tendency to acts of violence.

It is to be feared that this drug is not always used in asylums for definite medical purposes, but that it is frequently employed to aid in preserving quiet, by overcoming the demonstrative vehemence of choleric and turbulent patients; that it is, in fact, used as the wretched wives in the manufacturing districts use it on their drunken husbands, under the name of "*quietness*," to produce physical depression, and thus avert outbreaks of anger and violence. In the trial of a woman for murder, who had, with this intention, given her husband an overdose which had proved fatal, the extraordinary fact was elicited from druggists and others, that the administration of tartrate of antimony in the domestic broth or tea, had become quite a habit among the artisan class in the North of England; and that women bought their weekly quantity of "*quietness*" at the druggists' shops, as regularly as they laid in their weekly store of other every-day articles of consumption. It is to be feared that this pernicious habit prevails to a great extent in many asylums, and that "*quietness*" is given to lunatic patients, when there is no real medical indication for the use of tartrate of antimony. It may not always be easy to draw a line of strict demarcation between the medical treatment of the insane, and measures adopted for their discipline and control, but it should be always attempted; and, as a rule, the physician should steadfastly refuse to prostitute the resources of his art to any meaner purpose than a struggle with the well-recognized symptoms of disease. One source of mischief which a different line of proceeding entails is, that it throws suspicion and opprobrium upon important remedies, even when they are used for purely medical pur-

poses. In this manner, the shower-bath and tartarized antimony have suffered in character as remedial agents in the treatment of insanity; and it requires no inspiration to be enabled to prophesy that opium, which, rightly used, is the right hand of the physician in the treatment of insanity, will, ere long, fall into disrepute, with the timid and scrupulous, for the same reason.

The author has for many years used tartrate of antimony, in a certain class of cases of mania, with the happiest results. His aim has not been to produce nausea and depression; and when these results have followed its use, his experience is, that little benefit is to be expected from the use of the drug. On the other hand, the benefit to be derived from it appears to bear a close relation to the tolerance which the patient has for it. If a maniacal patient can bear a one or two grain dose of tartrate of antimony, three times a day, not only without suffering from nausea or purging, but with the enjoyment of a good appetite for food, the drug will, in all probability, promote his cure. The cases in which this tolerance exists, and this benefit may be expected, are not those in which there is much heat of head, accompanied by sleeplessness and a feverish condition of the system. In these, the treatment by leeches and warm bathing is far preferable to the use of antimony, which, indeed, they rarely bear well, or are improved by. The best cases for the tartrate of antimony are those in which the symptoms of acute mania are accompanied, in men of robust constitution, with little general disturbance of the physical health; patients whose head is not hot or cool, who look well in the face, have a strong, good pulse, have a good appetite, and sleep well,—the mental symptoms being those of excessive turbulence, pride, anger, &c.; patients who are always in contention, or desiring or endeavoring to perform some feat of strength; patients who appear to enjoy superabundant vital energy. This condition, which is not a common one, but occurring sufficiently often to make its recognition of great importance, is one of recent disease, although it is open to doubt whether it ever is the primary form of mania. Probably it is always preceded by a period, more or less brief, in which the symptoms of cerebral hyperæmia exist. These subside, and the symptoms above described take their place. The pathological condition of the cerebral organization, in these cases, can only be matter of surmise. It seems probable that it is one of molecular change, of great but irregular activity; one in which the processes of cerebral exhaustion and regeneration, of decay and repair, are

energetic, but in which they have escaped from the rules imposed upon them by the habits of health. That such cases recover under what may almost be called the heroic administration of tartrate of antimony, which neither produces in them nausea or depression, is a fact of which the author has had the most satisfactory experience.

Calomel.—The use of calomel, in the treatment of mania, is far more limited than that of tartrate of antimony. As a rule, it is a medicine to be avoided, on account of the irritability of the nervous system which it tends to produce. Five grains of calomel, however, in combination with ten of compound extract of colocynth, or fifteen of jalap, may be given as a purge when the skin and conjunctiva are dusky and bilious; and the milder preparations of mercury may be given in alterative doses, when the state of the tongue and the evacuations indicate the need of a stimulating action upon the liver. Mercury has, by many physicians, been freely given to produce ptyalism in mania. In our opinion, however, this treatment ought only to be followed in exceptional cases; the great nervous irritability caused by mercurialization being the very opposite condition to that we should desire to induce in the treatment of mental disease. A few cases, however, do occur in extensive practice, in which the full powers of mercury may fairly be tried. When a patient has passed from a state of acute into that of chronic mania, which, in spite of treatment, threatens to become permanent; when this state of affairs is accompanied by local heat in the head, sometimes also with a hard pulse, we have given the patient the chance which appeared to be afforded by mercurialization, and, in some very unpromising instances, with the best results. We have known such patients improve greatly under the influence of a grain of calomel, given two or three times a day, so as to produce ptyalism. In several instances, the ptyalism did not come on until considerable improvement in the physical and mental symptoms had taken place. In the use of this drug it does not occur, as in that of the last mentioned, that tolerance is an indication of its utility. We have known very large quantities of mercury administered without touching the gums, and without producing any improvement. In the conditions above described, the probability of success will sometimes be augmented by small losses of blood from the temples by leeching, or by a seton in the nape. In the cases, however, above referred to, the calomel was not thus assisted, and the apparent benefits which resulted from its use are the less open to question. Instead of calomel, in these cases, we have occasionally

used the bichloride of mercury, but not with the same success. We have also used this preparation in the earlier stages of general paralysis, as recommended by Dr. Sutherland; but, in this form of disorder, we have never seen any improvement result from it.

Opium.—The right employment of opium in the treatment of insanity, is a question whose importance is inferior to none in the whole range of psychological medicine. The early writers on insanity condemned the use of opiates and narcotics generally. They had observed that the mental symptoms were generally exaggerated after natural sleep,—an observation which it is easy to verify in any case of hyperæmic mania, in which short and fitful sleep takes place. They had also probably given opium to cases which were not fitted, or were not prepared for it, and they had observed that increased excitement followed such use of the drug. They had not learned to discriminate the conditions of mental disease in which opium becomes a true balm to the wounded spirit,—a sedative in mania, a restorative in melancholia; sometimes even a tonic, augmenting appetite; sometimes even an aperient, regulating the sensibility, and restoring efficient peristaltic action to the intestines. The person who appears to have most contributed to the reintroduction of opium in the treatment of insanity, was Dr. Shute, of Gloucester; we learn from Prichard's Treatise, that tincture of opium, combined with sulphuric ether, or Hoffman's anodyne, was extensively employed in the treatment of the patients in the Gloucester Asylum. Subsequently, Dr. Phillips used opium frequently and successfully, in the treatment of melancholia, at the Bethnal Green Asylum. Dr. Seymour, the eminent physician to St. George's Hospital, having visited the Bethnal Green Asylum, and seen the beneficial results of the opiate treatment, used it himself in private practice, and made known the excellent results he had obtained from it in the *Medical Gazette*. From that time the opiate treatment, both in melancholia and mania, has gradually undergone development, until, at the present time, the skilful and discriminating use of this drug may truly be called the sheet anchor of the alienist physician.

Van Swieten mentions an accidental case like that referred to by Esquirol, in which a scruple of opium dissolved in vinegar was taken accidentally by a maniacal patient, on whom this single dose effected a cure; he afterwards employed this drug freely, but never went beyond fifteen grains.

The use of opium, in the different forms of insanity, has long been

known to English practitioners. Ferriar gave grain doses of the aqueous extract in melancholy, twice a day, with success, and was thus the precursor of the morphine treatment of this form of mental disorder, which at present enjoys so much favor; he generally combined it with bark. Hallaran recommended its use in the first onset of the disease, which he believed was capable of occasionally being cut short by a full dose. After insomnia for two days, he has given 240 drops of the tincture of opium, the result of which was heavy sleep, lasting for nearly twenty-four hours, and terminating in complete recovery. Willis objects to opium, because it causes constipation, and sometimes increases watchfulness. A case is mentioned in Darwin's "Zoonomia," in which an insane patient was cured by Dr. Binns, by two doses of opium—the first containing two scruples, and the second, administered after an interval of four hours, containing one scruple. Dr. Brandreth also records a case of acute mania, cured by 400 drops of tinc. opii. Macintosh, in his "Practice of Physic," states that injurious effects have followed the administration of opium in insanity, from want of discrimination in the selection of cases for its use, and from the insufficiency of the doses used. In cases where there is great irritability and insomnia, and where there is no evidence of permanent organic lesion of the brain, he has seen the best effects result from 80 to 100 drops of laudanum, given every third hour.

Dr. Pliny Earle, an eminent American alienist, writes: "I employ narcotics to a considerable extent, and believe them to be the most effective, or among the most effective, agents in the treatment of insanity. Laudanum, and the sulphate of morphine in solution are more employed than any other; even in cases of acute mania they may oftener be administered with utility in a much earlier stage of the disease than has been supposed. Of the first, I generally begin with twenty minims, three times a day; and carry up the dose, as rapidly as the patient will bear it, to one, two, or three drachms, three times a day, according to the necessity of the case. I rarely exceed one drachm and a half, or two drachms."

Cullen gave opium in large doses. Of the continental physicians, Guislain appears to have used opium in mania most freely; the dose should be large, although he thinks it best to commence with two grains, which he augments to ten, fifteen, or twenty, according to the symptoms induced.

Esquirol remarks, that the ancients made great use of narcotics,

in the treatment of melancholia; and he recommends these remedies, and especially opium, in that form of melancholy which is vulgarly called nervous,—*Melancolie sans Matière* of Lorry. He remarks, that Odier used opium for this purpose, and that, in 1816, he published a case of melancholy, which he had cured with opium, the dose being gradually carried as high as thirty grains, combined with an equal quantity of musk.

The beneficial use of opium commences even before mental disease has actually developed. Dr. George Johnstone has done excellent service in pointing out the great use of this drug in the prophylaxis of insanity, in his lecture published in the *Medical Times*, in the year 1853.

The chief object of these lectures is, a description of those slighter derangements of the nervous system, out of which, in a certain proportion of cases, the more formidable diseases of the mind are gradually developed. His field of observation was extensive hospital and dispensary practice amongst the London poor, affording abundant opportunities for observing their habits and habitations, and for obtaining a knowledge and a record of many of their family histories. The results at which he arrives are,—

1st. That in a large proportion of cases, the more formidable derangements of the nervous system have their origin in some form of mental shock and anxiety.

2d. When the nature and origin of these nervous disorders are detected sufficiently early, the more serious forms of disease may often be prevented, and the slighter derangements entirely recovered from.

3d. The method of treatment best adapted for the prevention and cure of the diseases in question, admits of some variation in different cases, according to the nature and the cause of the symptoms; but there is one remedy, which, when given in the mode and with the precautions indicated, is more efficacious than all others combined. *That remedy is opium.* The form in which it was prescribed is: Pil. Saponis co. gr. v. h. s., which moderate amount of the narcotic, combined with exercise in the open air and tonics, appears to have been sufficient in his hands to procure refreshing sleep, removing the wearing effects of months of anxiety and restlessness, and to operate as an efficient prophylactic against mental disease.

Delirium tremens, which, without being nosologically included among the *phrenesiæ*, is undoubtedly a transitory form of insanity,

is cured by opium. In those instances of the disorder which occur in habitual drunkards, when their customary stimulant is withdrawn, the drug requires to be aided in its operation by alcoholic stimulants; but, in those instances which follow long-continued watching, combined with mental exertion, or moral anxiety, opium alone, in such quantity as will insure sleep, is the sole and almost infallible remedy. The transition is easy from delirium tremens to an important class of maniacal cases,—mania, with pale face, and weak pulse, with restless activity, and utter want of sleep,—and in these cases the preparations of opium or morphia, are most beneficial.

Their operation in effecting a cure is, however, greatly aided by that of other remedies, especially by warm bathing, by aperients when needed, by stimulants, and nutritious food. The following will briefly illustrate the nature and treatment of this common case.

J. B., a tradesman in good circumstances, for some years past given to a dissipated course of life, the frequenter of taverns and theatres. Owing to a reverse in business, he suddenly gave up his dissipated habits and remained at home, his business being conducted principally as before, by his wife; he became low-spirited, moping, and lost sleep at nights. Suddenly this state changed to one of wild, maniacal excitement, requiring his immediate seclusion in an asylum. His face was pale, and covered with a clammy sweat, the expression that of wild terror, the forehead cool, the pulse feeble and quick. Ordered—Træ. Opii. m xl, Ætheris Sulph. m xx, 4tis. horis.

In a week from admission this patient was convalescent; he had obtained some sleep from the first night, and the duration of sleep gradually increased. After recovery he told us, that during his illness the idea was constantly present in his mind, that he was about to be hanged.

J. C., a single man, in easy circumstances, of steady and temperate habits and cheerful disposition; his brother has had melancholia. Without any known cause, a change was observed in his manner and mode of life; he neglected his usual pursuits, and moped about, silent and abstracted; then he became restless, walked about his bed-room all night long, and refused food. This state of things was allowed to continue so long that, when called to see him, we found him very nearly at death's door; his teeth and tongue were covered with sordes, his breath had the fetid odor of a starved person, his face was of ashy paleness, his forehead cold and clammy to the touch, his pulse thready, and his body emaciated; he was reported to have had

no sleep for a fortnight (this was probably an exaggeration), to have taken very little food for the same time, and none for the last three days. Wine and beef-tea were given every hour; and after these had produced a slight evidence of reaction, half a grain of morphia was administered. This treatment had the effect of somewhat improving the appearance of the patient, and calming his restlessness; a repetition of the opiate produced a few hours' sleep. The treatment was continued; and from this time the improvement of the patient was evident from day to day. The bowels were first acted upon by aloetic injections; and when returning strength rendered anything like purgation less dangerous, rhubarb and gray powders were given twice a day. In five days, the patient was able to walk in the open air, leaning upon the arm of an attendant. When first seen, he was unable to articulate; but, when returning strength enabled him to do so, he gave expression to his delusions, which were —that he had no existence; that the person called J. C. was quite destroyed; and that he was nobody, and nothing. These delusions subsided, as the patient gained good nights of sound sleep; and the long convalescence which followed was principally marked by mental and physical debility. Observation: In this case, the use of Opium would have been dangerous, unless combined with the free use of wine and nutritious food. It would probably have rendered the respiration,—already feeble from inanition,—still more feeble, and thus have extinguished the flickering lamp of life by impeding the calorific process, already at a low ebb for want of fuel. Food and stimulants were the first essentials; and these were administered, in opposition to the little force which the patient could employ, by feeding him with a spoon, like a reluctant child. It may be doubted whether the food and stimulant alone would not have effected the restoration of the patient; but the great improvement which followed the first few hours of sleep, and which continued to follow every period of sleep, seems to point to the opiate as a remedy of at least equal importance. According to our experience, these cases of typhoid insanity usually do well. The typhoid condition appears to be the result of want of sleep, and total want of food. In cases of melancholia, or monomania, where absence of food has not been complete, but has been continued during a much longer period of time, and in which the patient has not entirely been deprived of rest, the appearances, though less threatening, are far more dangerous; there is an absence of the typhoid appearance, the sordes of the mouth, the stupid look, the

pale clammy skin, and restless motion: on the other hand, the body is far more emaciated, the skin, instead of being pale and clammy, is harsh and dry; the expression of eye and feature is not stupid, but anxious; opiates are not generally found to agree with such cases. The question with them is one of feeding; sometimes, after a long absence, food is taken well, and even ravenously, but it appears to do no good. Many such cases, in spite of every effort made to save them, gradually sink and die of inanition.

There may be some doubt as to the correct nosological position of the above cases; some would incline to place them in the class of melancholia, or more strictly, perhaps, in the sub-class lypemania (*melancolie avec dêlire*). But, notwithstanding the nature of the delusion, and the predominance of the depressing emotions, they appear to us to have a closer alliance to mania. The leading delusion, indeed, is melancholic, but there is that general derangement of all the intellectual functions—of attention, perception, comparison, imagination, &c.,—which can only be recognized in mania, the essence of which is a disturbance of all the mental functions, and a complete confusion of all the ideas. They appear, indeed, to furnish the connecting link between delirium tremens and mania; and it is on this account that we have given them precedence, in discussing the treatment of mental disease principally by means of Opium.

The Opiate treatment of the more ordinary forms of mania, namely, those distinguished by the excitement of pride and the combative propensity, requires nice discrimination of the pathological condition. Opium may be most useful to one patient, who is arrogant, turbulent, violent, and most prejudicial to another with the same mental symptoms; it may be most useful to the same patient, during the prodromic and first period of an attack, injurious during the second period, and again most useful when the symptoms of cerebral congestion have been allayed by other remedies.

The use of Opium in mania, is said by Esquirol to have been due to an accident. A lunatic got possession of and swallowed an ointment which contained 24 grains of opium, and having been cured by the narcotic thus unadvisedly taken, the attention of medical men was particularly directed to the use of this drug. Valsalva and Morgagni prescribed it, and Péry cured maniacal patients in whom there was much insomnia with large doses; he carried his doses as high as sixty-four grains in the twenty-four hours (Esquirol, tom. ii, p. 214)—a quantity considerably exceeding the large doses given by

Dr. Oliver, by whom this method of treatment has recently been recommended in the pages of the *Lancet*.

Although we have never ventured to use either morphia or opium in quantities at all approaching to those recommended by Dr. Oliver, we have yet employed them freely in doses which, compared with those usually prescribed, most medical men will think bold practice. It appears to us, however, that there are few cases in which morphia and opium are admissible except after the operation of, and in conjunction with, other remedies calculated to reduce the local cerebral hyperæmia, or general plethora; the cases which occur in which such remedies are not called for, resemble in their general characteristics those above given.

As a rule, opiates are inadmissible in mania so long as cerebral hyperæmia exists—either alone or in conjunction with general plethora. When circumstances permit, these should be reduced before opiates are administered; but frequently this rule cannot be strictly followed. The commonest maniacal condition is that in which the pulse is by no means full or strong; but the head is hot, the eyes are injected, and the existence of active cerebral congestion cannot be doubted; the patient is restless and violent, and without sleep for many nights. In such a case, the physician is called upon to determine between two evils. Morphia or opium prematurely given, will increase the cerebral congestion, and do mischief. Too long delayed, equal, or great mischief, will result from the want of repose. The violence, restless agitation, and sleeplessness of the patient, will perpetuate a degree of hyperæmia which a judiciously administered dose of morphia will often allay. There is great risk in laying down rules, but, as a general rule, after a patient has been without sleep for three nights, a full dose of morphia ought not to be withheld, notwithstanding heat of head, and other symptoms of cerebral congestion.

Practically, the physician finds himself in many cases compelled to give morphia, and to use remedies to reduce cerebral congestion concurrently with six, ten, or twelve leeches, to the temples, followed by cold lotions to the shaven scalp during the day, with or without an aloetic purgative, according to the state of the tongue, and the strength of the patient. This may be followed the same evening by a warm bath, with the cold still continued to the head, and a full dose of black drop or morphia being given the last thing. Such treatment frequently has the most satisfactory results; the patient

gets several hours of sound and refreshing sleep, and a modified repetition of the treatment, continuing the antiphlogistic or the narcotic remedies, according to the progress of the symptoms, results in a rapid cure.

The reader will find, in the Appendix, the brief records of many cases, illustrating the treatment of both the common forms of mania and of those whose management is beset with difficulty and peril. These cases it was at first intended to insert here and elsewhere, in the body of this work; but it has been thought best to form a short collection of cases, attaching references to indicate the text they most nearly illustrate: for it must be remembered that doctrine never quite tallies with practice, either in medicine or in any other of the arts of life.

When a case of grave disease succumbs after the employment of energetic and complicated treatment, it is generally impossible to estimate, with any degree of accuracy, the relative share which the remedies had in the fatal result; and one can only guess at the share which any particular medicine had in the same. Doubtless every patient who dies under the hands of a physician (that is, one really such, and neither a homœopathic sham, nor an expectant pedant) dies partly of the remedies employed. Had the disease not been resisted, the chances of avoiding death would have been greatly diminished, and the event itself might have been much earlier; but it would not have taken place in exactly the same manner—it would not, therefore, have been the same death. Hence, the assertion that the death of a patient, to avoid which active remedies have been adopted, is the combined result of the disease and the remedies; as the fall of a tree, which has been propped on its heavy side, is the combined result of wind and the lateral pressure of the ineffectual prop. Now it cannot be said that, in the instances we have given, the patients died from the effects of opium; but it is very certain that they would not have died in exactly the same manner if the opium had not been administered. There is, in certain cases of mania, a tendency to death from asthenia,—a tendency which Esquirol pointed out, attributing it to exhaustion of the sensibility. Opium, more than any other remedy, is adapted to lessen this danger, if it takes effect upon the system and procures sleep; but if the pathological condition is too profound for the remedy, and large doses of opium are administered without procuring the desired effect, the depressing influence of the ineffectual drug is added to that of the disease, and the tendency to death from exhaustion is greatly increased.

In most cases of this kind, death would have taken place from asthenia following long-continued sleeplessness, without any aid from the narcotic, which becomes, in voiding its desired function, a powerful sedative. Still the danger to be apprehended from this operation of opium, and especially from the salts of morphia, is one that is of much importance to be recognized. The knowledge of it has often withheld our hand from giving heroic doses of these narcotics, when the urgent need of procuring sleep at almost any risk otherwise indicated their use. The operation of opium upon the diseased nervous system is very remarkable. The enormous tolerance of it in many states—for instance, in hydrophobia and tetanus—and to a less extent in severe neuralgia and other affections accompanied by intense pain, is well known. It has a most singular operation on some other diseased states of the nervous system, which we have never yet seen adverted to. Our attention was first called to it, twelve years since, by the following circumstances. A badly-situated and damp asylum ward was occupied by idiots and demented patients; the result was a dysenteric outbreak, which, in several cases, proved fatal. An eminent physician, whose advice we took respecting the treatment of the dysentery, recommended the rather free use of opium, in the form of mixture and suppository. The effect of the drug on three demented patients was most remarkable. The opium took no effect upon the cerebrum proper, but exerted the most depressing influence upon the excito-motory apparatus. The respiratory movements became more and more slow; the temperature of the body decreased, the pulse failed, and the patients sank with the general symptoms of narcotization from opium, *minus* the affection of the mind. There was no coma or stupidity, the patients being fully awake to the last. Several other patients presented slighter degrees of this curious state, from which they were recovered by stimulants; but, in the three cases mentioned, the powers of life were already so much reduced by the dysentery, that the narcotization without coma proceeded, in from eight to twelve hours, to a fatal termination. In many instances, since this occurrence, we have seen the tendency to depression of the nervous power without coma, when opium has been administered to patients, the condition of whose mental faculties showed the existence of considerable cerebral atrophy; and it has taught us to be very cautious in the administration of opium in advanced dementia and general paralysis.

Now the state of the brain which leads to death from narcotization without coma, or a mixture of asphyxia and asthenia without coma,

occurs in other conditions than that of cerebral atrophy. Something like it is occasionally to be seen in the treatment of delirium tremens. The patient struggles to free himself from the enemies who surround him, the imps or murderers who threaten him, the snakes who fill his bed. Dose upon dose of opium has been given, in the constant hope that each dose will succeed in procuring the curative sleep. All at once the patient falls back. His breathing becomes embarrassed, his pulse fails, and in a very short time he is dead. The asthenia in this case is sudden, taking the form of syncope; but there can, we think, be little doubt that the fatal result is due to the same cause—the depressing effect of the drug upon the spinal-nervous system, assisted by the nervous exhaustion due to the disease. Had the narcotic effect of the drug taken effect upon the brain, its sedative effect upon the excito-motory system would have been obviated.

This theory applies most fully to the cases of mania above cited. The pathological condition of the cerebrum, which occasioned excitement and forbade sleep, was too profound to be overcome by the narcotic. This, however, operated as a sedative upon the spinal system, and accelerated that exhaustion of nervous power under which the patients sank.

It is extremely difficult to recognize the cases in which the danger of such a termination of treatment exists. It is to be hoped that they are cases which, under any treatment, could not have been saved; they certainly are cases in which the pathological changes in the cerebrum are profound. If it is permissible to estimate the severity, or even the nature of a pathological condition, by the degree with which it withdraws the system from the ordinary operation of remedies, the pathological condition of the cerebrum, which tolerates otherwise poisonous doses of opium without coma or sleep, is one from which an unfavorable prognosis may with good reason be derived. This method of estimating pathological states has the high sanction of Marshall Hall, who proposed the tolerance of loss of blood as the foundation of a practical system of diagnosis. The tolerance of opium may, on this ground, be one means of prognosis in mania. If a very large dose produces no effect upon the cerebral functions, death from exhaustion may be feared. In some cases this event cannot be obviated; but in others, the free administration of diffusible stimulants and of wine, the outward application of dry heat, and other similar remedies, may ward off imminent asthenia. In some cases, the danger will not be seen before it is too late to make any

attempts to turn it aside. In acute mania, as in some cases of delirium tremens, the patient continues agitated, restless, and sleepless; dose after dose of some opiate is administered, in the sanguine hope that each dose will be successful in causing sleep, and therefore the last required. The most watchful attention can detect no symptoms of failing power before the administration of the last dose; after this has been given power fails rapidly, and all efforts at restoration are vain.

In a valuable paper contributed to the 23d Number of the *Asylum Journal*, Dr. Noble, of Manchester, has pointed out the danger which exists of producing fatal *coma*, in the treatment of insanity, by full doses of opium; and he has well pointed out the indications by which this danger may be avoided. In our own practice we have not hitherto met with such cases; an immunity which we are inclined to attribute to the selection we have made of cases for full opiate treatment having been somewhat different. The danger has presented itself to us under a different aspect—no doubt because there was a stronger original tendency in the diseased condition to pass into that of nervous exhaustion than into that of fatal coma. That full opiates were occasionally followed by comatose sleep of a dangerous character was not unknown to our predecessors. Thus, in Hallaran's case, above cited, the patient passed twenty-four hours in an apoplectic kind of sleep, which could not have been unattended with danger.

Opiate Treatment of Melancholy.—In that form of disease called Acute Melancholy, the pathological conditions appear to be identical with those of acute mania, in which there is want of power and tone in the system. The difference in the mental symptoms which give rise to the difference of name, is dependent upon the preponderating excitement of the depressing emotions, accompanied and stimulated by delusions which cause extreme terror. This difference of mental symptoms, which arises from no fundamental difference in the nature of the disease, calls for no alteration in the medicinal treatment. The moral treatment, indeed, has to be carefully adapted to these emotional peculiarities, when moral treatment becomes possible; but, in the first outbreak of acute melancholia, when the patient sees in the physician a stern judge, in the attendants his executioners, in the chaplain a diabolical personage; or when he believes that he has himself destroyed the world and all that it contains, and is now himself to be destroyed; when he has not slept for many nights, and has not taken food for many days; moral treatment of any kind is

impossible; the patient must often be placed in bed, and attended with soothing and gentle words, the natural expressions of sympathy which his wretched condition would elicit, but of which he almost invariably appears as little conscious as a patient in the terrors of delirium tremens is conscious of explanations that his fears are unfounded. Such cases must be treated in exactly the same way as cases of mania. Usually, but not always, they are unattended by general plethora; usually the head is more cool than hot; there is not frequently great insomnolence; the opiate treatment, therefore, is as often essentially needful in acute melancholia as in acute mania, it is attended by the same risks, and must be guided by the same rules.

In the treatment of melancholia, with delusions,—the lypemania of Esquirol,—opiates are not always admissible; they are needful in proportion to the existence of irritability and a depressed condition of the cynæsthesis, in which, if there is not actual insomnia, there is very rarely a sufficient amount of sleep. In these cases the best form of opiate we have found to be the combination of the tincture with sulphuric ether, from 20 to 30 minims of each being taken two or three times a day. A curious effect of the opiate in these cases is, that it not only does not tend to constipate the bowels, but that it regulates and promotes their evacuation. In a number of instances we have observed this effect, and we have tested its reality by omitting the opiate, and finding that the regularity of the alvine evacuations was discontinued. The only explanation which can be offered is, that, by promoting a more healthy tone of the whole nervous system, the opium, in such cases, promotes the peristaltic action of the intestines. In melancholia without delirium, emotional insanity in its depressed forms, opium, and especially morphia, are invaluable. Combined with hygienic regulations addressed to the mind and the body, morphia exercises over these forms of disease the most powerful and satisfactory influence.

A gentleman of high endowments, single, of studious habits, having lived in a secluded part of the country, became gradually melancholic from ennui and want of mental excitement. When placed under our care he had refused food for some time, under the double delusion that he could not afford it, and that there was no room for it in his stomach; he was emaciated and weak, and slept very little, not more than one hour in the twenty-four; the bowels were habitually constipated, the tongue foul, and the breath fœtid.

A teacupful of a mixture of beef-tea and good port wine was given him with a feeding-spoon every three hours during the day, a grain of muriate of morphia was given every night, and five grains of aqueous extract of aloes every morning. Improvement rapidly followed; in a month the patient was able to walk seven or eight miles a day, and the delusions had disappeared. A feeling of shyness, and want of volition, remained for many months, but yielded to gradually extended intercourse with society.

Sometimes a perverted emotion, which has become apparently fixed and incurable, is held at bay by the beneficial influence of morphia. The following is a remarkable instance: M. L., æt. 56, was the wife of a carpenter, who, in repaing a nobleman's mansion, fell to the ground and was killed. From this and other causes of mental distress, she became afflicted with suicidal melancholia. When in the asylum she made several attempts at suicide, and the desire appeared to be always preying upon her mind. Morphia was administered—at first in one, and then in two-grain doses, at night, with the result of overcoming every manifestation of the propensity. Under the larger dose she became actually cheerful. When it was diminished she again became depressed, but not suicidal. At the request of Lord ——— she was discharged from the asylum, to be placed with her daughter, a schoolmistress, Lord ——— providing liberally for her maintenance. Here she has become a regular morphia-eater, the smallest dose she can subsist upon being eight grains a day. Many attempts have been made to diminish this expensive, and, to a poor person, extravagant medicament, but with the constant effect of producing melancholic symptoms. While taking eight grains a day of muriate of morphia she enjoys good health, the tongue being clean, the pulse good, and the spirits equable though always tending to depression. This poor woman cannot, therefore, be placed in the category of mere opium drunkards, in whom the drug produces baneful effects, not only on the mind, but also on the physical functions.

In one respect the above case is exceptional, it being rarely needful, in cases of depressed emotional insanity, to administer more than one grain of morphia at bed-time. The beneficial effects of this mode of treatment have been amply illustrated by Dr. Seymour, to whose papers in the *Medical Gazette*, and the *Medico-Chirurgical Transactions*, we beg to refer our readers.

When morphia produces sickness, pills of solid opium may be substituted; but, as a rule, in these forms of insanity, the muriate or acetate of morphia is preferable to any other preparation.

In some cases, all preparations of opium are found to disagree; sometimes they produce constant sickness, anorexia; sometimes they fail to produce the effect desired—they increase irritability, but do not induce sleep. Such cases are not numerous; and we possess no means of determining beforehand in what instances these difficulties will present themselves. When they do occur, we have found the only narcotic worthy of confidence as a substitute for opium to be Hyoscyamus; the doses, however, of this medicine usually prescribed are far too small; as a narcotic, we consider two drachms of the tincture of hyoscyamus a minimum dose; most frequently we prescribe four drachms, and occasionally six or eight drachms.

We have never seen the slightest reason to regard the administration of this medicine, in these large doses, as attended with any special danger. Doubtless it has a virus, since it possesses an unquestionable virtue; but, with common care, it appears a safe narcotic. The most serious objection to it, according to our experience, is that it soon loses its influence, and that, although it often relieves sleeplessness for a time, patients seldom pass into a state of convalescence from its use; it is a temporizing medicine, with virtues far inferior to the opiates.

We have tried many other narcotics, and reputed narcotics, in the treatment of insanity, especially stramonium and belladonna, and the new toy, Indian hemp. Others have obtained, or thought they obtained great benefit from these drugs. The conviction, however, which fair experiment has left upon our mind is, that in the treatment of insanity they are, in comparison with opium, or even with hyoscyamus, quite worthless.

The *rôle* of stramonium is in asthma, that of belladonna in tic and iritis; but who would ever prescribe them to produce sleep, except by removing some symptom which prevents sleep?

A considerable proportion of the cases in which opium is most useful require the aid of stimulants, either medicinal or dietetic, of highly nutritious food, of a tonic regimen, to re-establish mental health. Even the cases which require leeches to the temples, and cold lotions to the head, sometimes need the frequent use of wine and beef-tea very soon after, if not concurrently with, these remedies addressed to local hyperæmia. It is with them, as with many cases of typhus, in which the general strength of the system has to be maintained by wine and beef-tea at the very time that local congestions, tending to inflammations, require to be obviated by local bleeding. The state-

ment of this necessity in general terms is all that is possible; the practical application of it can only be learnt by careful clinical observation. The task of restoring the balance of circulation and functional power between an excited and hyperæmic organ, and a depressed state of the general system, is one of the most delicate and difficult which falls to the lot of the physician. If local depletion is used too freely, it tells injuriously upon the general powers; if wine and nourishment are administered too early, or too largely, they augment the local mischief. In many cases of recent mania, or melancholia, the physician must apply his remedies to the head with his finger on the pulse, and his remedies to the system with his hand upon the forehead. In fever, there is usually more danger from the failure of the general powers, than from states of local hyperæmia; and the preference of care must therefore be given to the means needful to support those powers. But, in cerebro-mental diseases, the danger of local mischief is usually most urgent; and cerebral hyperæmia must be combated, however weak the pulse. This rule, however, has not unfrequent exceptions; and in an asylum for the poorer classes at least, many cases are annually under treatment, in whom wine and beef-tea require to be administered freely, notwithstanding that the brain is in a state of decided hyperæmia.

An eminent authority on the treatment of insanity, has stated that typhoid cases of mania usually die; our experience has been the direct reverse of this, and enables us to state, that they not only do not die, but that they usually recover both in body and mind. The few cases which we have lost have either been admitted into the asylum in a moribund condition, or (which has happened twice) have been sent thither by an error of judgment, having been actually cases of typhus fever, complicated with delirium,—a fact proved by the post-mortem examination showing extensive ulceration of Peyer's glands.

Stimulants.—In some cases, stimulants and nourishments act as narcotics. If the patient swallows without opposition or difficulty, it is best not to concentrate them too much. Good old port wine made into negus, and freshly made beef-tea, should be administered alternately every hour, or even every half-hour. When food can only be administered with difficulty, it is best to mix the wine with the beef-tea, and to let the latter be strong.[1]

[1] It is too much the custom, in public medical charities, to give patients a coarse indigestible broth, under the name of beef-tea. A large pot is kept, in which bones and scraps of meat are boiled down, and in which the remains of the beef-tea of the

Sulphuric ether, and sometimes carbonate of ammonia, are useful as medicinal stimulants; the former, however, is most useful in combination with opium; and the latter with tonics in more chronic cases.

Of dietetic stimulants, genuine old port wine is far superior to all others; well-made egg-flip is, however, sometimes useful, the *spiritus vini gallici* of Pall Mall, or the more homely recipe of egg and sugar beaten up with old ale, a nutritious and comforting beverage, upon the daily use of which we have seen great progress made towards health and strength. The ordinary diet of insane patients, when, in chronic stages, it becomes part of regimen, instead of part of direct treatment, should be ample and nutritious. As a rule, the higher classes of society will improve by living somewhat below their average custom, and the lower classes by living above it; but for one patient who is likely to be injured by a too full diet, causing plethora, twenty are likely to derive the utmost benefit from an abundant supply of nutrition.

On the Use of Purgatives and Aperients.—The purgative treatment of insanity by hellebore is the oldest on record, and it still enjoys some traditional favor. In the treatment of many troublesome symptoms which arise in the course of chronic and incurable insanity, a brisk purge is often more useful than any other remedy; but, as a means of curative treatment, active purgation is, according to our experience, of little value. Theoretically, a purge is supposed to be a powerful derivative from the brain, not only by actually diminishing the bulk of the circulating fluid, but by causing a state of congestion of the intestinal mucous membrane, which derives from other parts. A headache, or sense of head-fulness from plethora, is easily and speedily removed by a purge; and, in chronic insanity, the transitory excitements which are so common from this cause, yield easily

preceding day are boiled up again; sometimes day after day. It is very right to economize bones and scraps of meat; but the beef-tea prescribed by physicians, in cases of dangerous illness, ought to be made in quite a different manner, and without regard to economy. The best prescription for it is as follows: Let a pound of the lean of well-fed meat be minced small, thrown into an enamelled pan, and a pint of *cold* water poured upon it; let it now be placed on the stove, and raised slowly to boiling heat: immediately it begins to simmer let the pan be removed to the side of the stove, for a quarter of an hour; then let the liquid be strained off. The points which require to be attended to, inasmuch as they are contrary to all the traditionary notions of the kitchen, are,—First. To add the water to the meat *cold;* and, Second, Never to allow it quite to boil. Beef-tea thus made has restorative power of a very different kind even to the strong and indigestible soups met with at pastry-cooks and hotels.

to a full dose of neutral salts, or to one of compound jalap powder, or to one of compound gamboge pill. But in treating acute insanity with a curative intention, active purgation does not appear to exercise that influence upon the state of the cerebral circulation which might have been expected from its undoubted service in the conditions we have mentioned. Constipation, indeed, frequently exists, and needs to be obviated; otherwise it becomes a source of disturbance, by perpetuating nervous irritation, and preventing the needful depuration of the blood. The most certain and useful medicine for removing constipation, is a full dose of castor oil, to be repeated from time to time, as occasion may demand; a daily dose of aloetic aperient, in quantity sufficient to insure one or two evacuations, is also of the utmost service. For this purpose, five or six grains of compound rhubarb pill, or four grains of extract of aloes with two of extract of hyoscyamus will be found useful forms. When the state of the secretions and the color of the skin indicate a deficient flow of bile into the intestines, the liver may be stimulated by a few moderate doses of hydrarg. c. cretâ, or blue pill. As a rule, however, mercurials do harm in a state of acute insanity; and no doctrine was more false, or likely to be more mischievous, than that which attributed any of its varieties to black bile.

Counter-irritation and Derivation.—The use of external derivatives, with a curative intention, if employed on the right cases, and at the right time, afford important and satisfactory results. The use of tartrate of antimony to the shaven scalp, in insanity, was strongly recommended by Dr. Jenner, who brought himself to believe that almost all cases were curable by its means, a persuasion in which he was of course very much mistaken, but which was, doubtless, grounded upon a limited but successful experience. The same remedy has been more recently advocated by a general alienist of high reputation, Dr. Jacobi, of Siegburgh. Before we were acquainted with the views of the above physicians, we had adopted the use of a counter-irritant, producing a purulent discharge upon the scalp, resembling that of the antimonial ointment. This remedy was the Oleum Tiglii, rubbed into the shaven scalp. We had seen the practice adopted by Dr. Stokes, of Dublin, in some cases where, during convalescence from typhus fever, the patients had passed into a state somewhat resembling dementia, and in other instances into a state of semi-coma. The benefit derived in these instances from this powerful counter-irritant, induced us to try it in cases where, upon the subsidence of

the symptoms of acute insanity, the patients were gradually passing into a state of chronic insanity, or dementia. The result was most satisfactory; and, after the experience of many years, we strongly recommend the counter-irritation of the scalp thus produced after the subsidence of acute symptoms, and when the head is cool, and there are no signs of plethora. We have also found it exceedingly useful in many cases of chronic melancholy with delusion. The proper application of the oil requires some little attention and skill. Upon a scalp of average texture, half a drachm of the oil, rubbed in with the palm of the hand for twenty minutes, will produce the desired effect: upon the scalps of coarse or fine-skinned persons an increase or diminution of oil and rubbing is needful. It is also needful to watch restless patients for a few hours subsequently, to prevent them from rubbing their hands over their scalp and face, and producing pustules upon the latter.

Tonics.—The use of tonic medicines in insanity is extensive and frequent. Sulphate of quinine, dissolved in port wine, is the most useful form, and often does good in the latter stages of mania, when the system is broken down, either by the exhausting processes of the disease, or by the want of food, and other sources of exhaustion to which neglected cases are often exposed. Bitter infusions, with carbonate of ammonia, or with the mineral acids, are sometimes useful, when wine and quinine would prove too stimulating.

There are few secondary remedies more useful in the treatment of insanity than bathing, and there are few that have been more abused; from the time when Van Helmont proposed to drive delirious ideas from the minds of the insane, by bringing them to the verge of dissolution from the body, by submersion, to the present time, when, according to the accounts given by Dr. Tuke, of York, and Dr. Moreau, the most eminent German alienists treat their patients with the utmost severity of the douche. Even Esquirol, who so boldly denounced some of the worst of these abuses, made use of the effusion of cold water to an extent which we should at the present day think highly dangerous, but to which he attributes the cure of several of his patients. Thus, in the case of M. L., "Malades Mentales," p. 206, of his second volume, he speaks of the affusion of cold water having produced a shivering, which lasted all day, followed, however, by tranquillity, and on repetition, resulting in a cure. In the case of F. M., a young lady of delicate constitution, and nervous temperament, recorded at p. 209, he says, that the affusion of cold water

was continued fifteen minutes, "after which a shivering came on, her jaws chattered violently, her limbs were unable to support the weight of her body, and the pulse was small, slow, and contracted; she was put to bed, and slept almost immediately. The sleep lasted four hours, during which an abundant sweat came on; on awaking, reason had returned, and there has not since been a moment of delirium." He concludes, "the douche on the head has a sedative physical action on account of the cold, and a moral action as a means of repression. The generality of convalescents declare that they have experienced benefits from it, and some patients ask for it, but, *il ne faut pas abuser.*"

There is no need to cite lower authorities than this great and humane physician, to prove the extent to which douches were used, before their danger was recognized, or at least before the prejudices of the public had been excited against them. Like all powerful remedies they were capable of abuse, and in the hands of either ignorant or unfeeling persons, there is no doubt that they often were greatly abused.

To prevent such occurrences, the regulations recently issued by the Commissioners in Lunacy, are, on the whole, judiciously conceived. To be of practical use, some limit must of course be fixed, beyond which the duration of a bath must be considered exceptional, and a shower-bath of three minutes is doubtless quite long enough for all purposes of medical treatment; indeed, with delicate persons, and in cold weather, a bath of that duration would often be dangerously long. As a means of repressing the state of febrile excitement, with heat of head, and emotional erethism, which is common among the chronic insane, a bath of three minutes' duration is more than sufficient. As a means of reducing cerebral hyperæmia, in acute cases of insanity, it would probably be very inadequate; but in such cases the shower-bath appears to us an inconvenient and altogether objectionable method of applying cold to the head, since it drives the blood from the surface of the body at large, and thus tends to the congestion of the internal organs, and especially of the heart, a congestion unfavorable to the return of blood from the brain. In such cases, far more benefit is to be derived by the application of cold to the head alone, and not to the general surface. Excepting the occasional use of the shower-bath in the intercurrent excitement of mania and monomania, its medical use is confined to its tonic action in irritably nervous and hysterical patients, and in some melancholic

patients. The benefit to be derived from its habitual use in hysteria is well known. Among the insane of both sexes, are a considerable number of persons whose nervous irritability and susceptibility are closely allied to that which prevails in the hysteric diathesis; in such persons, the daily use of the shower-bath, living in the open air, a well-regulated diet, intellectual occupation, and the authority of a strong will to check irregularities of conduct, form a system which alike braces the physical and the moral nature, and often results in the happiest change of disposition.

In melancholia, a daily shower-bath is often useful, even in cases where the strength of the system seems scarcely able to bear the shock; it should be of short duration, namely, from fifteen to thirty seconds; the patient should be dried while standing in a pan of hot water; but if the bath is followed by shivering, or even a feeling of chilliness, it should be discontinued.

The use of the warm bath, either alone or in combination with cold to the head, is a most important remedy in the therapeutics of mental disease. The simple warm bath allays irritation and promotes sleep. Judging from the small effects resulting from a warm bath in other diseases, its tranquillizing effect in insanity is often wonderful; it frequently produces sleep when all other means fail. We have at the present time a young man under treatment, with gay and mischievous mania; he is habitually sleepless. Morphia and opiates are not well borne by him; they cause sickness, and increase irritability. The tincture of hyoscyamus, in half-ounce doses at night, is borne well, and allays excitement; but if given without a warm bath, little or no sleep results; if given with a warm bath, eight or nine hours of sound sleep is obtained. In recent half-acute cases of mania, with irritability and partial sleeplessness, a course of three or four warm baths at night, with some simple aperient in the morning, often changes the whole aspect of the case, and leaves nothing to be done to complete a cure, but the employment of physical and mental regimen for a few weeks or months.

The same is true, though to a less extent, in some cases of melancholia. In general, those cases of melancholia are most benefited by warm bathing in which the various secretions seem out of order; in which the skin is harsh and dry, and often sallow, the tongue is loaded, the pulse soft and slow, and the disease has not been of long duration. Those are most benefited by cold bathing or cold sponging, in which there is most nervous irritability, a tendency to hys-

terical weeping, or to hypochondriacal notions, in which the skin is healthy, and the pulse more rapid than is usual, with a fair degree of force. The warm bath we usually prescribe is one of thirty minutes in duration, and ninety-five degrees of temperature.

The combined warm bath is a remedy much used and highly commended by the eminent French alienist, M. Brierre de Boismont; he recommends that it should be used for ten, twelve, or even fifteen hours,—the patient being retained in the bath during the whole of the time, if possible by persuasion, but if not, by force. The temperature is kept between twenty-five and thirty degrees Centigrade; cold affusions to the scalp being applied at intervals, and continued for ten or fifteen minutes at a time. Cold affusions and irrigations are inseparable from the employment of these baths. M. Brierre de Boismont generally gives them in the form of arroisoir falling from the height of a man; they maintain the coolness of the head, and diminish its congestion; they serve also to prevent that sanguineous afflux which the warmth of the bath might occasion; they are administered many times during the continuance of the bath. It is not uncommon to observe patients cease from crying and become calm, as the shower of water falls upon their head. Some of them cry that that does them good. "Of all the remedies," he says, "most strongly recommended against the acute forms of insanity, we know of none which are able to sustain a comparison with prolonged baths and continued irrigations."

M. Brierre employs this bath in a *bagnoir de force*, with a covering of wood adapted to inclose the neck of the patient. We have tried the plan; but it appeared so dangerous, from the efforts of the patient to release himself, that it was very soon discontinued. We have found it the most convenient plan to place the patient in a reclining chair, which fits into a warm bath of large size, and affords a good support for the head, which can then be held in the proper place by the hands of an attendant.[1]

[1] The Combined Bath was originally a design of Pinel. After describing the general use of baths, which for eight years had been at Salpêtrière "the fundamental basis of treatment for maniacs and melancholiacs; in proportion as their importance became more and more manifest, their employment was varied and seconded by other means; twelve bath-rooms being in activity during a great part of the day,"—he proceeds: "A happy combination of the douche with the bath adds much to its efficacy, and obviates even the smallest inconveniences which might arise. At each bath, immediately above the head of the patient, is a tube, which, by means of a tap, lets fall from a height of three feet a thread of cold water, proportioned to the end in view, and graduated to the symptoms, but generally very small, and limited to a simple sprinkling [arrosement]."

The effects produced by the combined bath are so great, that the length of time it is prescribed by M. Brierre de Boismont is to us unaccountable. We have known patients faint after the use of the warm bath, with a cold shower on the scalp, of no great force, continued for less than an hour. Once only we have used it for two hours; and an experience of some years has convinced us that it is a most important and valuable remedy, but one by no means free from danger, and the use of which, for any period approaching ten, twelve, or fifteen hours, would be fraught with peril.

We have known a single application, for one hour, of the warm bath with cold to the head, effect the best part of a cure in a maniacal patient; and in many instances of recent mania, with hot head, full pulse, and violent delirium, we have seen the symptoms take a favorable turn from the first application of this powerful remedy. But we have known one patient, affected with syncope, die on removal from the bath after being in it only twenty minutes; and in several cases we have observed so decided a tendency to syncope, that we have been convinced that it is not safe practice, in all cases, to repel the blood from a hyperæmic brain in the sudden and decided manner which the combined bath places at the disposal of the physician. Urgent cases, of course, need energetic measures; but, in the majority of cases of mania with cerebral hyperæmia, a warm bath at ninety-two or ninety-six degrees, with pledgets of wet linen constantly renewed to the shaven scalp, or kept cool by a small shower of cold water poured from time to time from the nose of a small common watering-pot, and used after leeches to the temples, is sufficiently energetic and successful and far safer than the practice recommended by the eminent author above quoted.

It will be useful to give a brief *résumé* of the principles upon which the active remedies should be prescribed whose employment in mental disease has been here treated upon.

In the first place, it is a question of the utmost importance to decide when active remedies are needful. In the chronic stages of insanity active remedies are rarely admissible, except to obviate some intercurrent condition, which produces too much disturbance and danger to be permitted to run a natural course, and wear itself out. In recent insanity, with symptoms of physical disturbance of little violence and urgency, active medicinal treatment may oftentimes be dispensed with. The removal, or the cessation, of the causes of the disease, and the influences of mental and physical regimen, often

suffice to place the patient in a condition so favorable to the subsidence of the form of mental disease under which he suffers, that any active medicinal interference is more likely to do harm than good. One of the most important and difficult lessons for a young physician to learn, is to know when to abstain from interference with the laws which regulate the rise, progress, and subsidence of disease; it is a lesson which can only be learned by long experience. As a rule, interference should not be directed against abnormal conditions of the mind, however recent, unless they appear to be dependent upon pathological states of the body which are understood and known to be susceptible of change or removal. Interfering treatment should not always be employed when the physical functions are obviously deranged: thus, many patients are brought to asylums suffering from recent not acute insanity, from moral causes, in whom the physical functions are generally but moderately disturbed,—appetite and sleep are impaired, and the nervous system is in a state too excitable or impressionable. In many such cases, the influences which attend residence in an asylum, including removal of cause, change of scene, regular hours and diet, occupation without excitement, and tranquillity without dulness, favor the operation of laws tending to a natural solution in health, without the administration of a single dose of any kind of medicine. On the other hand, recent disease, with symptoms of an acute and violent character, is rarely unattended either with the persisting physical causes of the disease, or with such pathological conditions as do not, if left to themselves, tend to a natural solution in health. Thus, a suppressed secretion, or discharge, is a persistent cause which requires active interference; the total want of sleep is the sign of a pathological condition becoming in itself a cause of degenerative change, which, if left to the laws of disease, tends in many instances to death, and in many others to the continuance of insanity in an incurable form.

Active medical interference, therefore, is most needful in the acute and violent forms of mania and melancholy; its first and main aim being frequently the production of sleep; in some cases, this is obtained by relieving cerebral hyperæmia; in others by obviating an irritable condition of the brain, either by the administration of narcotics alone, or in combination with stimulants and nutriment. After the first storm of violence has subsided, and a fair proportion of sleep with a comparative degree of waking tranquillity has been obtained, medical interference may be usefully directed to the restoration of

disordered secretions and physical functions, to the restoration of suppressed catamenia, to regulating the action of the liver and intestines, and to promoting the secreting functions of the skin.

In the early stages of these acute forms, regimenal treatment must be mainly directed to the abstraction of all causes of excitement. The absence of friends who excite emotion; the absence of familiar objects of occupation which excite morbid thought; the absence of noise and conversation; the absence of all stimulants of cerebral activity must be provided for. The range of physical symptoms in these forms of disease is very wide, extending from cases in which there is almost an absence of such symptoms, to those in which there is a close approximation to some forms of cerebral inflammation; therefore no precise rules can be laid down for their regimenal treatment. In many cases, conversation, occupation, and other means for distracting the mind, are most useful; and even the extended and prolonged muscular exercise, which is so strongly recommended by the Commissioners in Lunacy as an important means of treatment in all cases of acute mania—even that is found, in some cases, to be a most useful means of reducing nervous irritability and procuring sleep. But, in many cases, it would be as rational to compel a patient suffering from acute mania to take prolonged and extended muscular exercise, as it would be to force a patient suffering from meningitis, or a patient in the last stage of nervous excitement from delirium tremens, to do it. In either case, such treatment would probably result in the death of the patient. Common sense and experience alike dictate that, in cases of acute mania approaching in character to cerebral inflammation, the removal of all sources of excitement, and of all influences tending to increase the action of the heart, is indispensable; and that, in cases of acute mania verging in character upon delirium tremens, muscular exertion and all sources of exhaustion must be studiously avoided. Doubtless, cases do occur in which a superabundant nervous energy appears to be directed to the muscles, and in which there is no evidence of active hyperæmia of the brain. In such cases, "prolonged and extended muscular exercise" produces a tranquillizing effect on the mind, of value in the treatment. But to prescribe "prolonged and extended muscular exercise" in all cases of acute mania, is as much opposed to the spirit of rational medicine as it would be to prescribe the same remedy in all states and forms of acute dyspepsia, because in one form of this disease it is occasionally useful.

In the latter stages of curable insanity, interfering treatment is still often needed to procure sleep, to remove persisting causes of disease —as suppressed or excessive discharges, to remove foci of nervous irritation—as an irritable uterus, to correct tendencies to cerebral hyperæmia or irritation by the use of leeches, setons, or counter-irritants, to correct disordered secretions, to correct any abnormal states of the assimilative apparatus, and to invigorate nervous tone.

Regimenal measures are, in these stages of mania, to be directed to the same purposes. Regular muscular exercise in the open air now becomes of great therapeutic value. Cold bathing to brace the nervous system, nutritious diet to promote the regenerative nutrition of the brain, are not less needful. At the same time there is less danger, on the one hand, from excitement influencing unfavorably the cerebral circulation, and from exhaustion, on the other, telling prejudicially upon the worn-out nervous energies. In these stages, occupation and amusement become regimenal—promoting the normal action, not only of the mental, but of the purely physical functions, and especially those of assimilation and secretion. In the occupation of gardener or agriculturist, the exhausted Antæus falls upon his mother Earth, and derives renewed vigor from the contact.

No practical distinction can be drawn between the medicinal treatment of mania and that of melancholia. In the acute forms, the pathological conditions upon which they depend appear identical, although hyperæmia is more frequent in mania, anæmia and irritability more frequent in melancholia. Local depletion and refrigeration, therefore, are more called for in mania, narcotics and warm baths in melancholia. In the latter, also, the functions of assimilation and secretion are more profoundly disturbed, and their rectification demands more close attention.

In the less acute forms of melancholia, an indication of treatment exists not met with in mania. It is that of removing painful states of feeling through the influence of narcotics. The cœnæsthesis or self-feeling of Crichton, or, as Dr. H. Monro has recently termed it, the functional sense, is the frequent cause of the emotional disturbance in the slower forms of melancholia. Morphia, taken for a long period, influences this state most beneficially, and thus frequently effects a cure of the mental disturbance in a manner which gives the appearance of more direct medication of the mind than any other form of treatment in mental disease.

When the acute symptoms of recent cases have subsided, the indi-

cations of treatment are generally tonic and restorative. With this view, pharmaceutical agencies are of infinitely less importance than regimenal ones. Many cases, however, occur, in which quinine dissolved in wine is found useful, and a few in which the mineral acids, or the diffusible alkali, with bitters, assist the best-directed measures of regimen. The most efficient tonic regimen is derived from exercise in pure country air, to which excitement is given by agreeable outdoor occupation and amusement, by the daily use of cold sponging or bathing, by an ample supply of nutritious food, good clothing, clean and well-ventilated apartments, and those general appliances of a well-regulated asylum which promote physical health and mental cheerfulness. It is at this period that the beneficial influence of the sane upon the insane mind—that is, moral treatment properly so called —is most felt. At this period cod-liver oil is often useful. It is also the time for the diligent application of counter-irritants to the scalp, in those cases where physical health is restored, while the loss of mental power threatens the hopeless passage into dementia. In other cases, where cephalalgia, with heat of head, with angry irritability and tendency to violent excitement, continues for a long period after the subsidence of the acute symptoms, and threatens the transition into chronic mania, mercurials, given to touch the gums, intermitted, and again given for six or eight weeks, ought, we think, to be tried. So many cases of this kind have recovered under this treatment, that, notwithstanding the contra-indication of mercurials in insanity, under the threatening circumstances above described, the patient ought not to be deprived of the chance thus afforded. When successful, the mercurial action probably is so by changing the action in some small portion of the brain-substance, or membranes, in which something closely allied to inflammation has existed, the continuance of which, in some chronic form of hyperæmia, served as a *foyer* of irritation to the whole organ. Sometimes, in these cases, a large quantity of mercury may be taken, without affecting the gums, or in any way appearing to influence the system ; in such cases, if the strength of the patient will bear it, a seton should be placed in the nape ; this promotes the influence of the mercury, and has often appeared to insure its success. The influence of the mercury should be slow and sustained. Five grains of Plummer's pill twice a day, is a good form under which to obtain it. The eighth or tenth of a grain of the bichloride, however, given two or three times a day, is to be preferred, when the secretions are in a satisfactory state.

In primary or acute dementia, the indications of therapeutical treatment are often slight, or altogether absent. Sometimes the signs of gastric disturbance exist; there is little appetite, and the tongue is pale and coated, or red and dry. In such cases, remedies judiciously addressed to the state of the stomach often do good. In some cases, where there appears to be a debilitated, flabby condition of the mucous membrane, small doses of balsam copaiba, diffused in bitter infusion, often do good. In irritable conditions of the gastric mucous membrane, the usual remedies must be given. When the catamenia have been suppressed, remedies must be directed to their restoration; and of all remedies for this purpose which have been employed in the Devon Asylum, none will bear comparison with the electro-galvanic current passed through the pelvis, for the space of half an hour daily. The mere sensations produced by this remedy, also, are not without their use in primary dementia. A strong physical sensation often rouses the attention, and sets afoot the other faculties of the mind; and it is probably on this principle that blisters to the nape do good in this form of dementia, rather than by any physical influence they exert. A bracing tonic regimen, and especially the influence of pure air, good food, and cold bathing, are useful in this form of mental disease, which, in practice, is found to be far more curable than appearances would lead the inexperienced to suppose.

The Moral Treatment of the Insane.—No term has of late years been more profusely and empirically employed, and none has been less understood, than "the moral treatment of insanity." To remove the causes of cerebral excitement is not moral treatment; and even to be kind and gentle in word and deed to the insane, cannot rightly be called moral, but physiological treatment. Thus, Dr. Conolly says, "We seek a mild air for the consumptive, and place the asthmatic in an air which does not irritate him, and keep a patient with heart-disease on level ground; and on the same prophylactic and curative principles, we must study to remove from an insane person every influence that can further excite his brain, and to surround him with such as, acting soothingly on both body and mind, may favor the brain's rest, and promote the recovery of its normal action."—*The Treatment of the Insane without Mechanical Restraints*, p. 55. The removal, therefore, of sources of cerebral irritation and passionate excitement, is not moral but physiological treatment. It may be easy to say what is not moral treatment, but

it is by no means so, for the physician of an English asylum to say in what this treatment really does consist. If he seeks for authorities in the writings of eminent continental alienists, he finds that with them it consists in punishment. The system described by Pinel, of the monks[1] who drilled the insane as the sergeants of the great Frederick drilled the heroes who conquered Germany, is essentially the same as that of Leuret and Ideler; the continuous but more painful blow of a torrent of water being substituted for a shower of blows from the stick. If the English physician looks to the writings of his countrymen for some description of that moral treatment with which they boast to have replaced the barbarisms of mechanical restraint, he finds little more than vague generalities. The most inflexible firmness must be combined with never-failing kindness and gentleness and sympathy; the patient is to be taught habitual self-control, by habitual indulgence; in fact, the alienist physician is to be a veritable lion, but like the notable Bottom in that character, he is to "roar you as gentle as a sucking dove."

In Dr. Conolly's recently published history of the abolition of mechanical restraints, a paragraph occurs, which indicates the importance he attaches to the influence of mind upon mind, in the treatment of the insane: "Among the improvements yet to be made in the practical department of public asylums, arrangements for what may be called an *individualized* treatment are particularly required. None but those daily familiar with the events of asylums can duly appreciate the great effects of such treatment in special cases. After the first improvement in patients received into the best asylums, some will remain stationary for a length of time, without the special attention of an intelligent and watchful attendant, whose duties are almost exclusively confined to such cases. For want of such especial care, the signs of improvement may fade away, and the chance of recovery be lost. Patients who have remained listless and unimproving for months, and who have seemed falling into a state of apathy or imbecility, or even verging on the hopeless state of dementia—in a word, in which they received little personal notice or attention—are seen, in some encouraging instances, when happily transferred to attendants who have more disposition to attend to them, or better opportunities of so doing, or greater aptitude for the task, to awaken from their

[1] "Il le prévenoit que son obstination dans ses écarts seroit punie le lendemain de dix coups de nerf de bœuf. L'execution de l'arrêt était toujours ponctuelle, et s'il etoit nécessaire, on la renouveloit même a plusieurs reprises."—*L'Alienation Mentale*, p. 312.

torpor, to become animated, active, and even industrious. The countenance reassumes intelligent and cheerful expression; a disposition to converse returns; all the mental faculties appear gradually to reacquire capability of exercise; and in some cases, entire amendment follows."—(p. 64.)

Now, what is this *individualized* treatment recommended by the wise and experienced physician of Hanwell, but the influence of a sane mind peculiarly apt to express itself beneficially upon the insane mind, that is, moral treatment, or more strictly speaking, intellectual and moral treatment? The existence, therefore, of such a thing is recognized as of infinite importance in certain stages of insanity; and as something in addition, and supplemental to, the ordinary kindness and physiological abstraction of excitement which form the modern English system of treatment.

Any officer, or attendant, who is successful in the management of the insane, who daily impresses upon them the influences of his own character to their improvement, undoubtedly practises moral treatment; often, indeed, as M. Jourdan spoke prose—without knowing it, or at least without knowing the nature of the good he does, or the rationale of its action.

That a physical disease caused by a moral emotion is susceptible of cure by an opposing emotion, is undeniable in other regions of nosology than that devoted to the neuroses. Dyspepsia caused by anxiety is cured by prosperity and content; the dysentery of armies waits upon the depression of defeat, and is cured by the breath of victory. The opposite of that which influences any part of an organ to its detriment, is likely to act upon the abnormal state so produced with beneficial effect. Therefore, moral emotions opposed to those which cause insanity are likely to promote its cure. The proposition may be made still wider. The causation of insanity proves the vast influence of moral agencies upon the cerebral organism. This influence, if it can be brought to bear, must possess commensurate power as a curative resource, even when the exciting causes are unknown, or known to be physical. Pinel classifies the Passions, as causes of insanity, into the spasmodic, the depressing, and the expansive or gay; but nothing is more certain than that an expansive passion may produce melancholia; or that a spasmodic one—jealousy, for instance—may produce the merriest variety of mania.

Melancholia from moral causes often changes into gay mania, and the reverse. It is evident, therefore, that a knowledge of the moral

cause of any particular instance of insanity will not always afford a clue to the emotions it is desirable to act upon, with a view to treatment. The actual condition of the patient's mind must be made the object of study with this view, and not the cause of that condition, which is so important a consideration in physical treatment. To appreciate that condition is the first step to success in acting upon it; and a faculty of clear insight into character is the primary requisite of character to him who would take a useful personal share in the moral treatment of the insane. A physician may be very scientific and skilful in the use of the ordinary weapons of physic, and yet be helpless as a child in the power of influencing the feelings of others in any determinate direction; as a clergyman may be a learned theologian, but powerless as a pastor; as a schoolmaster may be full of pedantic lore, and yet practically as imbecile as Dominie Samson. A faculty of seeing that which is passing in the minds of men is the first requisite of moral power and discipline, whether in asylums, schools, parishes, or elsewhere. Add to this a firm will, the faculty of self-control, a sympathizing distress at moral pain, a strong desire to remove it, and that fascinating, biologizing power is elicited, which enables men to domineer for good purposes over the minds of others. Without these qualities, no man can be personally successful in the moral treatment of the insane. A mere amiable and feeble, or a coarse and uncontrollable mind, alike fail in this delicate duty; and if the possessor of such a mental constitution has wisdom to estimate this duty at its full value, he must perform it vicariously. That so much of it may be so well done vicariously by ordinary attendants is a most happy circumstance for mental sufferers, and proves that the possession, at least in a moderate degree, of the qualities indicated, are consistent with a defective education and a lowly social rank.

In the first stages of acute insanity, all attempts at moral treatment are futile. That which, at this period, is called moral, is purely physiological—namely, removal of causes of cerebral excitement, and the arrangement of circumstances so as to secure, as far as possible, a state of cerebral repose. To this must be attributed the influence of kindness and of the expression of sympathy, which is not always unfelt, even amidst the most acute delirium; as it is certain, on the other hand, that the remembrance of harsh behavior and needless restraint, of whatever kind, is often the cause of deep resentment, and even the source of new phases of delusion, at a period when the patient appears to be wholly occupied with trains of delusive thought

and perverted emotion, having no apparent reference to the persons or things which surround him. Some authors affirm that patients retain a faithful impression of all the treatment they have received during the most acute attack; others maintain the contrary. For instance, M. Brierre de Boismont says, "Les alienés et les délirantes sont très crédules et les amuse comme les enfants; leur mémoire est excessivement oublieuse." In truth, both these opinions appear to be correct, in different cases. In questioning convalescents, we have found that, in many instances, the acute stages of disorder have left a perfect blank in the memory; in others, the most painful and minute recollection of the past period of suffering has been retained. When patients emerge from the first outburst of the storm of mania into the comparatively tranquil condition, in which they can appreciate, to some degree, the nature of persons and things,—or when the primary attack has been such as to permit such appreciation from the first, the influence of moral and intellectual agencies becomes felt.

The discipline of an asylum, and the moral treatment of its inmates, consist of means which, to the inexperienced, are likely to appear feeble and ineffectual, because the patients are or ought to be under constant surveillance, and wilful breaches of discipline cannot or ought not ever to be unobserved. Jeremy Bentham used to maintain, that if a thief about to pick a pocket were perfectly certain that he should be detected and compelled to restore the whole of the property stolen, with no other punishment, he would certainly not take the trouble to commit the theft. Now, although the many varieties of misconduct to which the insane are prone are not guided by the calculating selfishness of the same thief; although to a great extent they are manifestations of perverted emotion or morbid instinct; the principle of the preventive power of watchfulness applies to them; and hence it is, that under good and careful discipline, the need of repressive measures is comparatively very slight. Watchfulness replaces severity. The old maxim, *obsta principiis*, prevents to a great extent those violent and dangerous outbursts of conduct which occur under negligent treatment, and for the protection of the sufferer and those around him, necessitate strenuous measures of repression or restraint. Hence it occurs, that under watchful and skilful management, all that part of the wrong conduct of the insane which is under their control becomes controllable by slight means. This is especially the case in asylums of some magnitude, on account

of the influence of rule and habit upon the old inmates, and that of example upon the new-comers. The influence of example in enforcing obedience to law has a wonderful potency. The lawless youth who has been the terror of his native village, becomes obedient and docile when he enlists, often without suffering any punishment, and solely because he finds himself in the midst of an orderly system. The same influence tells forcibly upon the new inmate of an asylum: he may resist at first, and his mouth may be as hard as that of an unbroken colt; but after a while, and without any harshness, he will answer to the slightest indications of the rein of discipline.

In the moral treatment of the insane, it is of the utmost importance to discriminate correctly between that part of wrong conduct which patients are able, and that which they are unable to control. As a rule, that which they are able to control is controllable by means very far from being severe, either in appearance or in character. On the other hand, that part of their conduct which they are unable to control, and which is neither more nor less than the expression of pathological states of the brain, includes by far the greater part of the most violent and dangerous manifestations of insanity.

This conduct must be resisted solely by physiological and pharmaceutical means; direct moral treatment is as much out of place as in inflammation of the heart, or of any other viscus. Clinical experience alone gives the power of distinguishing between the controllable wrong conduct, which is amenable to moral influences, and that violence utterly beyond the command of the will, which yields only to medicinal remedies. As a rule, however, the alienist physician should make it a point to regard under the latter light, all those aberrations of conduct which occur in the first access of the disorder, and which are accompanied by any appreciable signs of physical disturbance; and if he sees fit to combine any moral influences with his physical treatment, he should take especial care that they are not of a nature to cause pain or annoyance, and to give birth to antipathies and resentments which may stand greatly in the way of efficient moral treatment when the proper time for its use arrives.

In the chronic forms of insanity, the accompanying symptoms of physical disorder, and the obstinacy and excess of moral perturbation, will after some experience enable him to make the above diagnosis of the character of insane aberrations of conduct, without which the application of any measures of moral treatment is empirical and

dangerous. Thus he will learn, that the violence of epileptic mania is beyond the reach of any kind of moral control, and justifies only measures of precaution and protection; while that of mania impressed with the hysterical type of disease, is greatly under the influence of judicious control.

To weaken the hold of perverted and effect the establishment of healthy emotion, is an indication of moral treatment to a great extent fulfilled by the repression of wrong conduct. Action is the outward expression of feeling; and the laws of mind are such, that many feelings derive increased vigor from their outward manifestation, and suffer diminution of their force by its suppression. This at least is true of habitual states of emotion, although it is not correct when applied to accidental ones; a sudden grief may be the deeper, that finds not vent in tears; and pent-up anger, caused by an injury that cannot openly be resented, is notoriously unrelenting.

But nothing is more certain in practical ethics, than that any habitual state of feeling is fostered and strengthened by permitting its free expression in outward act. The blustering bully becomes more and more passionate by every act of violence; and the sentimental woman, who indulges herself in the outpouring of small sorrows, loses all epidermis of character, and becomes one of the most wretched of sufferers. Hence the repression of the manifestation of habitual feeling succeeds in preventing the growth of such feeling and gradually weakens its force. The tendency to sudden excitement, or anger, to pride, and the various forms of selfishness which constitute no inconsiderable part of the perverted emotions of the insane, is repressed by means taken to check the irregularities of conduct of which these feelings are the source. But the indication of moral treatment now under consideration is of wider import than the mere repression of wrong conduct. Many forms of perverted emotion do not lead to conduct which can be reprehended as mischievous or dangerous; thus, melancholy, religious depression, some varieties of deep-seated but quiet antipathy, exaggerated pride and selfishness, constitute forms of perverted emotion which often do not express themselves in conduct adverse to the safety and welfare of the patient. In some instances of this kind, conversation and expostulation may be of use; but, as a rule, any direct interference with perverted feeling not expressing itself in conduct, and therefore not to be affected by any antagonistic conduct, tends only to excite resistance, and creates mischief. The rule of moral treatment in

these cases is, to remove as far as possible the cause of perverted feeling; to place the patient in a perfectly new *entourage* of circumstances, and to trust, first, to the operation of time, in wearing out morbid feeling, and secondly, to the excitement of feelings of an antagonistic and wholesome nature. Thus, nothing is more common than for an insane person to acquire antipathies to his dearest relatives and friends, accompanied or not by suspicions and delusions. So long as interviews with such relatives, or even intercourse by letter, or conversations with third persons, revive at intervals the full force of these feelings, no improvement takes place; but if the patient is removed from all contact with persons and things which suggest unhealthy reminiscences, if conversation respecting his morbid feelings is interdicted, and especially if all intercourse with the objects of these feelings is absolutely denied for a sufficient period, antipathy gradually gives way to anxiety and to the yearnings of restored affection.

General depression, without delusion, is one of the purest forms of emotional insanity. To resist depression is to increase it. The appropriate moral treatment is, to gain the patient's confidence, to fix his attention, and to furnish interesting and wholesome objects of thought, which will divert his mind from introspection, which will diffuse abstracted thought, and loosen the hold of concentrated emotion. For this purpose useful occupation is far superior to any form of amusement. The higher the purpose, and the more appellant the nature of the occupation to the best abilities of the patient, the more likely is it to draw him from the contemplation of self-wretchedness, and effect the triumph of moral influences. We have observed some delightful cases of this kind, in which melancholic patients undertook the charge of the sick; and in Tennyson's psychological epic, he makes the restoration of his brainsick hero take place on the soundest principles of treatment, through the intervention of patriotism and martial ardor. It is sound wisdom, in these cases of depression, not to attempt too much at a time, but to work patiently and slowly. Deep and undemonstrative feelings, although of a morbid character, cannot be forced. A cheerful and orderly mode of life, in which useful occupation is pleasantly chequered by amusement, an earnest and sympathizing but not too interfering behavior on the part of the physician and his assistants, the absence of the causes of morbid feeling, and the aid of physical remedies in obviating morbid sympathies and susceptibilities, will effect a cure in most cases where there

is no irremediable change in the organism, unless by long neglect the morbid states of feeling have become second nature.

Resistance to delusive opinion, and the restoration of healthy modes of thought, is an indication of moral treatment, which is partly fulfilled in the measures proper to the two indications already discussed. Opinion, feeling, and conduct are so closely correlated, that, to act upon one, necessarily influences all. Still, questions of moral treatment arise, which separately relate to each. With regard to delusive opinion, the main question is, whether it should be resisted, —and if so, in what manner? Very diverse judgments have been expressed on the point, from that of Leuret and others, who boldly attack delusions with the douche, to that of some English psychologists who appear to think that any kind of interference with the course of nature, in this respect, is beyond the province of the philanthropic physician. We are convinced that the best rule is to give (generally without assigning reasons) a firm, steady contradiction to the truth of the patient's delusions, whenever it is obtruded upon notice; but never to elicit the expression of a delusion, except for purposes of absolute need, as for certification, &c. A morbid thought not expressed, like a feeling not expressed, often dies out by the kindly influence of time. We have known cases of fixed delusion, apparently hopeless, wear away by imperceptible degrees, under this influence. For some reason or other, perhaps from some annoyance or other, the patient ceases to express his thoughts; after a long interval, that obvious but indescribable change takes place in his appearance, which indicates returning sanity; and, when put to the test, the delusion is found to have vanished. On the other hand, we have known sad havoc made among insane minds by an indiscreet and meddlesome person eliciting the expression of their various delusions. When the patient persists in expressing his delusions, the physician must use his judgment as to the propriety of contradicting them in words, or of maintaining a dissenting silence, or remaining as neutral as possible. A knowledge of the patient's temper will be the best guide; when contradiction can be borne without causing anger, it may be ventured upon; but when this is not likely to be the case, an unassenting silence, or dissent suggested by demeanor, is the safer and better course.

In the earlier stages of insanity, when moral treatment is of little avail in comparison with physical treatment, the patient may be permitted to express his delusions without interference; but in the second

period, when physical agencies have done their work, when delusive opinion appears to be in some respect the result of a morbid habit of thought, resistance to expressed delusions must not be neglected by any psychologist who aims at the actual employment of moral treatment. Simple dissent, sometimes, with an added exhortation to resist the influence of absurd ideas, is the full amount of positive resistance which can usually be offered. Argument is almost always to be avoided, but the subject of the delusion may be obliquely talked at; and a little happy ridicule, in the hands of persons able to use it with skill and without offence, is not unfrequently useful. We cannot believe that any indications of concurrence in a patient's delusions can be other than mischievous in any cases presenting the possibility of a cure; in some incurable cases, however, such concurrence may be excused on the ground of the happiness it confers. Every asylum contains some unquestionably incurable patients, whose happiness is greatly promoted by an acquiescence in their delusive opinions. We have a patient who has for years taken solicitous and trustworthy care of our horses and dogs, under the belief that they are his property. Another patient takes charge of cows and pigs, although he insists upon being addressed by the title of a certain lord. He is as honorable as he is arrogant, and does much useful work while repudiating the slightest interference on the part of attendants, because, he says, one gentleman ought to oblige another. No one would think of diminishing the amount of enjoyment which a hopeless lunatic can derive in this life, by opposing or contradicting harmless delusions, from which he derives, perhaps, more happiness than some sane people do from their false estimates of wealth, and rank, and fame.

The most efficient method of loosening the hold of delusive opinion is, by stimulating the exercise of healthy thought. When Van Swieten recommended that patients should be submerged until they were nigh unto dissolution, in order that old morbid trains of ideas might be destroyed and new ones substituted, he overlooked the fact that loss of consciousness does not get rid of any previous mode of thought, either normal or abnormal. Some curious facts are on record of change in the function of memory from pressure on the brain (*see* Sir Astley Cooper's "Lectures on Surgery," and Sir B. Brodie's "Psychological Inquiries"); but they do not extend to any change in opinion. This, whether normal or abnormal, when it has become a mental habit, requires to be changed by slow physiological process.

If even the healthy mind lays aside, for a time, a certain set or train of ideas for another set or train upon a widely different subject, it is found impossible, on resuming the former set, to think on them in exactly the same light. Feelings change, and proofs alter in value; time mellows if it does not weaken memory; and if old opinions are resumed, their angles and asperities are removed. With the delusive opinions of the insane the change is far more complete. If new objects of thought are not only presented to but impressed upon the mind, if the patient is placed in the midst of circumstances entirely new to him—if he is made to experience his pleasures and pains, his sympathies and sufferings, in a phase of existence apparently distinct from that from which he has derived all the suggestions of delusive thought—if employment is made to replace inertia, cheerful society and recreation to replace moping dulness, new trains of ideas become the habit of the mind, and the subjects of delusion gradually fade in the perspective of memory; until at last it requires an effort of recollection to bring any traces of them to the surface of thought. It may be doubted whether any idea, sane or insane, which has ever strongly held possession of the mind, is so thoroughly forgotten as to leave no traces of its passage. There are few men who do not vividly remember the impressions made upon them by some striking dream. Past delusions, also, are remembered, but new trains of thought divert attention from them; and when, after a time, they are purposely summoned by recollection to the chancery of judgment, it is found that a wholesome change has deprived them of all their force, and a healthier mode of thought contemns the validity of their proofs.

Argument is notoriously useless in the treatment of insane delusion. Never yet was a madman argued out of any absurd opinion, resulting from mental disease; and facts to the contrary are but examples of the form of insanity changing or yielding to the influences of time or treatment; the last correction of erroneous judgment being effected in a mind verging upon insanity, by the ordinary means which influence sane thought. Arago and Baron Humboldt once kindly undertook to convince a patient that perpetual motion, of which he believed himself the discoverer, was impossible. The patient, a man of education, yielded to their arguments; but, on leaving them, before he got round the corner of the street he said, "For all they say, I must be right."

Systematic works on insanity generally contain examples of the

cure of delusion by artifice. Prichard, who has quoted several from Esquirol and Guislain, avows that he has had "no opportunity of making similar experiments;" adding, "which, however, I shall certainly attempt whenever it may be in my power, though without sanguine hopes of success." We have less hope than Prichard; for we should not think it worth while even to try the effect of legerdemain upon mental disease. We have seen so many painful instances of objective reality failing to influence delusion in the smallest degree, that we have not the slightest faith in the effect of trick. At best it can only influence the semi-delusive ideas of hypochondriacs, as in the instance of the man whose supposed glass legs were well belabored with a billet of wood by his angry servant-maid. But the delusions of melancholia and monomania hold on to the mind with quite a different tenacity. We have sent to a distance for the children of a patient who believed they were all dead: when they came before her living and well, her alarm at their supposed apparitions aggravated her condition greatly. When was a man who believed himself ruined, ever convinced to the contrary by every show and use of wealth? We are sorry to be able to yield but very imperfect belief to the accounts of the cure of delusions by legerdemain. The modern examples are so uncommonly like the old ones, that it is impossible to resist the suspicion that they have been copied from them.[1]

[1] The following references to ancient authorities on the subject is from the charming pages of old Burton. "Sometimes, again, by some fained lye, strange newes, witty device, artificial invention, it is not amiss to deceive them. As they hate those, saith Alexander, that neglect or deride, so they will give ear to such as will sooth them up. If they say they have swallowed froggs, or a snake, by all means grant it, and tell them you can easily cure it; 'tis an ordinary thing. Philodotus, the physician, cured a melancholly king, that thought his head was off, by putting a leaden cap thereon; the weight made him perceive it, and freed him of his fond imagination. A woman, in the said Alexander, swallowed a serpent, as she thought: he gave her a vomit, and conveyed a serpent such as she conceived into the basin; upon the sight of it she was amended. The pleasantest dotage that ever I read, saith Laurentius, was of a gentleman at Senes in Italy, who was afraid to urinate, lest all the town should be drowned; the physicians caused the bells to be rung backward, and told him the town was on fire; whereupon he made water, and was immediately cured. Another supposed his nose so big, that he should dash it against the wall if he stirred; his physician took a great piece of flesh, and holding it in his hand, pinched him by the nose, making him believe that flesh was cut from it. Forestus had a melancholy patient, who thought he was dead: he put a fellow in a chest like a dead man, by his bed's side, and made him reare himself a little, and eat: the melancholy man asked the counterfeit, whether dead men used to eat meat? he told him yea; whereupon he did eat likewise, and was

The moral treatment of insanity which consists in opposing the pre-occupation of delusion by the ideas which are generated during useful occupation and wholesome recreation, requires to be greatly diversified according to the individual capacities and the previous mental training of each patient. It has been affirmed that this mode of treatment of the higher classes of society is more difficult than that of the poor and laboring classes; because, in addition to their resistance to authority, they are inapt and averse to laborious pursuits. This difficulty, no doubt, exists; but it appears to us that, in this country at least, far too little has been done to obviate it. Within the narrow precincts of a small private asylum, the means of doing so may not be found; but, if sufficient interest can be attached to occupation, gentlemen are as ready to occupy themselves as the mechanic or the laborer. It cannot be expected they will submit as readily to the monotonous labor of digging and delving as those who were born to it; but they take even more interest in scientific gardening and agriculture, and in those mechanical employments which require delicacy of manipulation and taste. Some amusements, also —for instance, sport of every kind, billiards and other games of skill, and accomplishments—as painting or music, are found to occupy the attention of educated gentlemen much more strongly and beneficially, as curative means, than that of the uneducated classes. Between amusements and occupations, however, a due proportion ought to be preserved. Devotion to mere amusement seems to produce a dissipated state of the insane, not less than of the sane mind; and it is well known that nothing is more wearisome and less wholesome than a life of mere pleasure-seeking. In some of the Scotch public asylums, the amusement of the patients by theatrical representations, concerts, pic-nics, &c., appears to be the prime means, if not the end, of treatment; or at least to bear about the same proportion to useful work, which is the law of man's real happiness in this life, as Sir John Falstaff's abundance of sack bore to his twopennyworth of bread. As a general rule in the moral management of asylums, the reverse proportion ought to obtain between the stimulating excitement

cured. Lemnius hath many such instances, and Govianus Potanus of the like."—*Anatomy of Melancholy*, vol. i, part ii, sec. ii.

In another place he says: "Hercules de Saxoniâ had such a prophet committed to his charge in Venice, that thought he was Elias, and would fast as he did: he dressed a fellow in angel's attire, that said he came from heaven to bring him divine food, and by that meanes staid his fast, and administered his physicke; so by the mediation of this forged angel he was cured."—Vol. ii, part iii, sec. iv.

of pleasure, and the invigorating mental nourishment afforded by steady mental occupation directed to some useful end. There are individual cases in which the stimulus alone can be administered, at least at first; but it is doubtful whether such cases would not be far more benefited by the pleasures and excitements of travel, taken under proper care and surveillance, than by residence in the most agreeable asylum. The advantages to be derived by patients of the laboring classes, from their aptitude to employ themselves usefully, have a drawback in the monotonous nature of the work at which such patients are employed in our public asylums. Occupation which requires thought is far preferable, in a curative point of view, to that which requires none; and hence it occurs that artisan employments for men, and household employments in the kitchen and laundry for women, are far more useful as curative agencies, than the monotony of spade-husbandry for the former, or needlework for the latter. We entertain considerable doubts as to the curative utility of the promiscuous dances and crowded assemblies which have come into vogue in large asylums. Their influence is too indiscriminate. If they rouse one patient from apathetic dejection, they urge another into mischievous excitement. An hour or two devoted to various kinds of recreation, several days a week, in the different wards, is a more manageable means of diffusing cheerfulness and diverting thought. In this manner various kinds of amusements are capable of being applied more frequently, and under better management. Surely an hour in the evening, spent in recreation by one's own fireside, in a jovial dance or game, or the enjoyment of music, has a more wholesome influence upon the mind than a weekly or monthly attendance at a public ball; and the parallel appears to hold good in asylum life, not only in theory, but according to our experience in practice.

The occupation of the mind by educational processes of a pedagogic kind, has a high value as a means of moral treatment, in some particular instances. Leuret relates a striking instance ("Des Indications a suivre dans le Traitement Morale," p. 61) of compelling the patient to learn daily, by rote, a certain number of verses, by which he overcame a peculiar form of insanity, manifesting itself in the constant repetition of fixed ideas, expressed in the same formulæ of words. Among educated patients, we have found literary pursuits of the utmost value as a means of moral treatment; and in asylum management we find school classes, periodical publications, and a lending library, of great importance in affording relief to the monotony of

confinement, and in giving topics of conversation and thought. With more individualized attention than is afforded in our large asylums, the moral treatment might be developed into the powerful means of resistance to insane pre-occupation which M. Leuret has made of it. In the Devon Asylum, during eight months of the year, evening-school classes, are formed, under an experienced schoolmaster, on three evenings in each week. They are carried on by the attendants as class-leaders, in several wards at the same time, and consist of reading, writing, and arithmetic classes. Their influence as a source of wholesome mental occupation, has been decidedly beneficial. During the summer months, the evenings are spent in open air recreation.

In works which treat upon the moral treatment of insanity, it has been customary to prescribe rules for the guidance of the demeanor and behavior towards the insane. From the excess of firmness, which is demanded by some, one would think it needful that an alienist physician should have "an eye like Mars, to threaten and command," as if his chief functions were not unlike those of the worthy Mr. Van Amburgh. The universal gentleness and indulgence which others advocate, would lead to an opposite extreme, scarcely less adverse to the true interests of the patients. The truth, as usual, lies between; and the physician who aims at success in the moral treatment of the insane must be ready "to be all things to all men, if by any means he might save some." He must nevertheless have a good backbone to his character, a strong will of his own, and with all his inflections be able to adhere, with singleness of purpose and tenacious veracity, to the opinions he has on sound and sufficient reasons formed of his patient, and the treatment needful to be pursued towards him. With self-reliance for a foundation to his character, it requires widely different manifestations, to repress excitement, to stimulate inertia, to check the vicious, to comfort the depressed, to direct the erring, to support the weak, to supplant every variety of erroneous opinion, to resist every kind of perverted feeling, and to check every form of pernicious conduct.

The physician may often, with the best success, take one part, and the attendant another,—a good understanding existing between them as to the end in view. "I have often heard my master, the estimable Esquirol, affirm," says Leuret, "that an insane patient ought often to have the services of two medical men who are thoroughly agreed to act in the same direction, but by different means; the one

taking the part of a consoling and officious friend, having only a restricted authority, and submitting himself, or at least appearing to submit himself, to a superior authority; the other exercising the supreme power, knowing everything, judging everything, and on occasions scolding even his colleague. I have found this officiousfriend in M. Marcel; and one sees with how much tact he has availed himself of the confidence of the patient. My severity rendered the intervention of a protector needful; and this protector in exchange for the support he gave to the patient, acquired the right to his gratitude."

The system thus practised by the senior physician and his junior is available, and often successful by the aid of attendants. The exercise of authority may be assumed by the physician himself, or by the attendant, according to the temper and position of the patient, guided also, in some degree, perhaps, by the qualifications of the physician himself, according to which he may best be able to command, or to comfort and soothe. It is essential, however, that every measure should be taken under the immediate direction of the physician, and that there should be a perfect understanding between him and his assistants. In the moral treatment of the insane, a divided authority, or a diversity of intention, is fatal to all hope of success.

The subject of moral treatment is as wide as that of education; nay, wider; for it is education applied to a field of mental phenomena extended beyond the normal size by the breaking down of all the usual limits. Every case has its peculiarities, requiring that its moral treatment should be adapted to them. Moreover, in identical cases, if such can be supposed to exist, the same treatment will not equally succeed in the hands of different medical men. M. Leuret says ("Indications a Suivre,")—"To combat the same disease two physicians take each a different part; since, finding in themselves dissimilar faculties and aptitudes, they chose the means with the use of which they are best acquainted. The moral pharmacopœia of the physician, if I may be permitted the expression, is in his head and in his heart; he has in himself that which he gives to his patient. If ingenious, he will give much; if clumsily, although learned, he will do no good. As for precepts and guides, if they exist for you, they are in you; seek them not elsewhere. The moral treatment is not a science, it is an art,—like eloquence, painting, music, poetry. However great a master of the art you may be, if you give rules, he alone will submit himself to them who is your inferior. In matters

of physical science there are precise rules; in mathematical ones, there are rigorous calculations; but, in morals, there must be inspirations."

Mechanical Restraint and Seclusion.—A work on Insanity would certainly be defective if all mention of the topic which, of late, has so much engrossed the attention of alienist physicians, were omitted. But although we have taken an active part in the warm discussion on the question of the total abolition of all mechanical restraints, we do not feel called upon to revive it in these pages. We have, for fourteen years, conducted a large asylum, whose admissions, during that time, have amounted to eighteen hundred cases, without having had occasion to resort to the employment of mechanical restraint in the treatment of insanity. We entertain precisely the same opinions on the employment of restraint and seclusion as those which, four years ago, we expressed to the Commissioners in Lunacy, and which, with many others, they have published in their Eighth Report. We shall, therefore, be content to quote some passages from that Report, in which we have set forth our opinion and practice in these important questions of treatment.

In the Devon County Asylum, restraint is never employed, except in surgical cases; in these, of course, the same principles must be adopted for the insane as are necessary for the sane, to insure that absolute quietude of parts which is essential for the advantageous conduct of the healing process. It is not denied that cases have occasionally arisen in which it was difficult in the extreme to avoid the imposition of restraint; for instance, those of suicidal patients who have endeavored to effect their purpose, by thrusting articles of clothing and other substances, down the throat, by beating the head against the wall, and other means, which are scarcely capable of being obviated by any watchfulness on the part of the attendants.

The occurrence of such cases, however unfrequent they may be, renders it impossible to deny that the imposition of mechanical restraint may, in rare instances, be rendered necessary for the safety of the patient.

Mechanical restraint in the treatment of the insane is like the actual cautery in the treatment of wounds, a barbarous remedy, which has become obsolete from the introduction of more skilful and humane methods, but which may still be called for in the exceptional and desperate cases. It may be said, that as these cases are so rare—that as large asylums are conducted, for many years, without one of them being met with—that as they do not appear, it may be considered as if they did not exist.

The abolition of restraint was an indispensable starting-point for efficient reform, since its employment was combined with a multitude of evils, which its removal rendered intolerable. Under restraint, the management of the insane could be conducted by a small number of attendants, without calling upon them to exercise

either self-control, intelligence, or humanity; there was little need of medical skill, or employment, or recreation; it was found that the easiest plan of controlling the lunatic was by an appeal to his lowest motives, especially to the most debasing of all motives,—to fear.

Without restraint, these conditions were reversed; and, above all, it became necessary to influence and control the insane by higher and better motives. In my opinion, the essential point of difference between the old and the new systems consists in this, that under the old system the insane were controlled by appeals to the lowest and basest of the motives of human action, and under the new system they are controlled by the highest motive which, in each individual case, it is possible to evoke.

The lunatic is unable, without assistance, to control his actions, so that they may tend to his own well-being, and to that of society. He is therefore placed under care and treatment, that he may be restored to the power of self-control; under care, that while this power remains impaired, he may be assisted in its exercise. This assistance may come in the shape of a strait-waistcoat, or in the fear of one; or it may come in the sense of duty imposed in the operation of a gentle but effective discipline, of honest pride, desire of approbation, or personal regard, or the still nobler sentiments of religion. The first motive, that of fear, belongs to man and the animals, and its exercise is degrading and brutalizing; the latter motives are human, and humanizing in their influence, and their development is the true touchstone of progress in the moral treatment of mental disease. It was the brutalizing influence of fear, and the degrading sense of shame, which constituted the true *virus* of mechanical restraints.

In repudiating the use of mechanical restraints in the Devon Asylum, the above principle has been kept in view with a jealous anxiety, lest the moral effects of restraint should present themselves in some other form. It would seem that it is more easy, or at least more consistent with our nature, to rule by fear than by love. And the annoyances caused by the insane, on their immediate attendants, are hard to be endured without exciting a spirit of retaliation. For this reason, the plan of manutension, or holding violent patients for a long time by the hands of attendants, scarcely deserved the name of a reform; and seclusion, injudiciously and harshly employed, is liable to the same objection. If a patient is to be ignominiously thrust into a dark and comfortless cell, and detained there for an indefinite period, on the occasion of any outburst of temper or irritability, it may well be doubted whether mechanical restraint does not possess some advantages over such a system; and the French physicians may be perfectly justified in preferring the *gilet* to their own *cellules de force*. But, in my opinion, seclusion differs widely from restraint, in its capacity for beneficial employment. Restraint, except in cases so rare that they may be left out of consideration, is always an unmitigated evil. Seclusion, wisely employed, is frequently an important and valuable remedy. The character of seclusion, as a remedy, has never recovered from the attacks made upon it by the advocates of mechanical restraint. They represented, truly enough, that a patient walking about pleasure-grounds, with his arms tied to his sides, was capable of more enjoyment than he would be if shut up in a dark and narrow cell, with all his limbs at liberty. In this objection, the fundamental principle of the new system was overlooked,—that neither by restraint, seclusion, nor any other means, was it permissible to inflict upon the insane any unnecessary or avoidable suffering, or any

indignity or degrading coercion, whether of a physical or moral kind. But the possible abuse of a thing is no valid argument against its use; otherwise there is no important remedy, medical or moral, which might not be equally objected to.

Seclusion should not be resorted to merely as a punishment for improper conduct, or as a means of getting rid of a troublesome patient; but the extreme irritability of some patients, the uncontrollable fearfulness of others, and the reckless violence of a few during periods of epileptic excitement, are such that a removal from the society of their fellow-patients cannot be withheld from them without sacrificing their interests and safety. In the employment of seclusion, everything depends upon its method. In the Devon Asylum the padded room is rarely used, except as a sleeping-room for feeble patients, who are liable to get out of bed, and fall against the walls at night. Its principal use, therefore, is not for seclusion. The attendants should have the power to impose seclusion only under the most pressing emergencies for brief periods, and until the medical officer can arrive. Seclusion being a remedy, should be directed solely by the medical man, whose care it should be to abstract from it every punitive characteristic. The easiest mode of doing this is, to invest it with a medical character; to speak of it as necessary for health, and even to add some other remedy, more purely medical. In numerous instances, I have observed the most beneficial effects result to the mental condition of patients, from the confinement to bed which had become necessary from some not very serious bodily disorders,—a sore leg, for instance,—and have derived therefrom, on this subject, hints which I have found not without value.

It is not, however, often feasible to confine a patient to bed for the sake of mental quietude. The relaxation so produced might increase the nervous irritability, which it was desirable to obviate. On this account it is found an excellent plan to seclude irritable patients in the open air; to place them alone in an airing court, where they can be kept under observation, and where, by solitary exercise, they can walk off their excitability. On this account, also, seclusion rooms should be light and cheerful sitting-rooms, furnished with means of occupation and amusement; the very reverse of *cellules de force*. Where such rooms are not attainable, a vacant corridor, gallery, or day-room, should always be preferred to the cramped space of a single sleeping-room. Seclusion, used as a remedy, should be made as agreeable as possible. It is thought of some importance that patients should, in many cases, have the power of ingress and egress to and from their rooms. At the opening of this asylum, the bedroom doors of one whole ward were supplied with ordinary door-handles on the outside, so that the patients might enter their rooms without the aid of the attendant's key. In each ward, where seclusions are most prevalent, single room doors have been prepared with ordinary door-handles and latches within and without, in order that the seclusion may as frequently as possible be robbed of its coercive character: used in this manner, as a remedial agent, seclusion as little deserves the opprobrium of being coupled with restraint, as the warm bath or any other means of allaying nervous irritability. When possible, the patient is persuaded to submit to separation, before excitement has developed into violence, and the employment of force has become requisite. If seclusion is always looked upon as an evil, it becomes an evil by being postponed until it is needful to enforce it by superior physical strength.

There is, however, another aspect under which seclusion must be considered, wherein it is not remedial; wherein it is acknowledged to be an evil, by its use

being justified, as the least of two evils, of which the annoyance and danger of the patients in general is the greater. It cannot be denied that insanity frequently displays itself by excitement of the malignant passions; and that some of the most depraved of mankind terminate their career in asylums. Towards these seclusion must be occasionally employed in its harsher form, as a coercive means to prevent the welfare of the many from being sacrificed to the passions of the few. But, under a well-developed system of industrial employments, aided by medical remedies, this repressive kind of seclusion is rarely necessary, and in this asylum certainly forms by far the least frequent reason of its employment. Habits of industry, propriety, and order, are inculcated with so strict a surveillance as to leave to the ill-disposed but little opportunity for the indulgence of vicious propensities. By these means, habits of self-control are gradually established; and frequently, in the end, self-respect is so far awakened that it becomes both prudent and just to withdraw surveillance.

We should have been glad to have illustrated our practice in the disuse of restraint by the detail of cases showing in what manner the various difficulties which arise in the treatment of the insane may be met without its employment; but we find, that, to make them intelligible to persons unacquainted with asylum practice, they would require to be described at greater length than our space permits.

It may be useful, however, if we briefly indicate some of the most common forms of violent conduct met with in the insane, and the treatment they demand.

First.—The violence of an insane patient may result from an irritated state of the nervous system, and a general sense of discomfort resulting therefrom. Such a patient should be soothed and tranquillized by the kind and sympathizing behavior of those around; the effects of his violence should be perceived and obviated, but not resented; and the diseased hyperæsthesia of nerve should be calmed by appropriate medicinal and regimenal treatment, narcotics, warm baths, &c.,—local depletion for cerebral hyperæmia, or stimulants and full diet for the reverse condition of the brain.

Secondly.—It may result from increased energy, or at least from increased rapidity of exhaustion of the nervous force, wasting itself in the rude conduct of boisterous good or bad temper. The treatment is medicinal and regimenal. These are the cases in which active and prolonged muscular exercise is of the most use. The patient may need to be walked rapidly between two attendants: seclusion is occasionally needful. This condition rarely lasts long.

Thirdly.—Violence may arise from delusion. The patient may think that those around him have injured him, or intend to do so; he

may consequently be violent from anger or fear. Or he may believe himself called upon to kill himself, or some one else, and hence become the subject of suicidal or homicidal violence. Such a patient must be soothed by gentle words and kind treatment, and medical remedies must be directed against the pathological condition of the brain, upon which the delusion appears to depend.

Fourthly.—Violence and destructiveness are sometimes continued by a patient as the mere result of habit. Under unskilful management, the manifestations of excitement continue after its pathological conditions have ceased. Habit is the fruitful source of all that is good or bad in the actions of man, and its influence upon insane conduct requires to be carefully discriminated. When the habit is of long standing, it can only be eradicated by a process of re-education. Change of circumstances will do much to remove it; but a careful and patient system of mental training,—the application of moral treatment in its fullest sense,—is the sole remedy, not only of violent, but of all other insane conduct which is the result of habit.

Fifthly.—The violent conduct of an insane patient is sometimes the expression of his normal state of mind and disposition. Violent and turbulent men supply their full share to the population of asylums. Sometimes the red hand is palsied by the touch of insanity. Sometimes the original disposition, and the power to express itself in dangerous act, remains unchanged. Violence of this kind, resulting from a fierce and wicked disposition, might, on first thoughts, appear to justify the most direct and energetic measures of repression; but when we reflect how little the malevolent disposition of a sane man has been proved, by the failure of all reformatory methods, to be modifiable by any forms of repression or punishment; when we reflect that, punishment of any kind, even when most deserving, is entirely foreign to the beneficent calling of the medical man; we shall do right to conclude that it is enough to distinguish this form of violence from others which are the symptoms of disease, and to meet the dangers resulting from it by measures of precaution, while we strive to weaken the force of passionate and evil temper by that long-suffering charity which overcometh evil with good.

APPENDIX.

CASES ILLUSTRATED BY THE PORTRAITS IN THE FRONTISPIECE.

Acute Mania.

M. D., No. 1198. The portrait of this patient, which is the upper portrait in the frontispiece (Fig. 1), affords an excellent representation of the acute form of mania. There is much emotional and intellectual disturbance, with comparatively little derangement of the physical health. The patient, who is now thirty years of age, has been a remarkably handsome woman, and indeed still possesses the traces of eminent beauty, although distorted by passion and suffering. Her insanity was brought on by want and distress, which she endured after the birth of an illegitimate child. When brought to the asylum she was emaciated and anæmic, the pulse was feeble, the heart dilated, with irritable and excessive action; the functions of the uterus were normal: under the use of fifteen grains of compound iron pill, twice a day, at the end of three months she recovered, and was discharged. Returning to her home, she met with renewed distress, and suffered a relapse. She believes that she is tormented by witches, and that she is compelled by them to make noises resembling dogs and cats, the crowing of cocks, &c.; she believes that an old woman is shut up in her belly, which she beats violently with the purpose of killing the intruder; she sometimes destroys crockery and glass, and attempts to get up the chimney, although there is a fire in the grate; says she is cut to pieces, and that all the people around her are murderers; she strikes, without warning, straightforward blows at the faces of those who converse with her. The physical functions are regular, and the sleep good. The ferocious expression caught in the photograph passes into one of ungovernable fury, the face becoming almost purple, the veins of the head and neck turgid and swollen, and the saliva hanging on the lips like foam. In less than half an hour, if spoken to kindly and soothingly, she becomes tranquil. Tonic treatment has been indicated in this case; but, at present, good food and occupation are the only remedies likely to be of use.

Monomania of Pride.

E. N., No. 976. The central portrait of the frontispiece (Fig. 2), is that of a female aged 38, the daughter of an officer in the Customs. The cause of her illness

is not known, but it appears to have been of long standing. Six years before her admission, she met some soldiers, who, she said, attempted to create a disturbance, and who appear to have frightened her. For some years before her admission, she was in the habit of coming from Devonport to Exeter, whenever the assizes were held at the latter place, in order that she might maintain her rights as Her Majesty's Person. On these occasions, a benevolent magistrate, to whom she had made herself known, used to send her to her home. At last, on one of these occasions, she was thought decidedly unsafe, and was sent to the asylum. Her delusion is, that she is Her Majesty's Person—she is not Her Majesty, but Her Person—a distinction on which she lays great stress, but which we have never been able to understand. She is proud, and dignified in her demeanor. Out of the commonest materials of dress she contrives to make a distinguished appearance. She fastens the skirt of her dress low, so as to form a sort of train; and, with arms folded, the head with its coronal ornaments thrown proudly back, she would, if permitted, maintain an erect and regal position from morning till night. As she has dilated and irritable heart it would be dangerous to permit her to indulge this fancy; and hence arise some differences of opinion between her and those who have the care of her health. The intense pride expressed in the turn of head and eye, and in the firm compressed lips, cannot be mistaken. It is the physiognomy of one exaggerated emotion, transmuted into one delusive idea.

Congenital Imbecility.

S. J., No. 1471. The portrait of this youth, the lowest in the frontispiece (Fig. 3), represents the vacant, expressionless stare of imbecility. The patient, aged twenty-seven, is the son of a weak-minded father; he has always been of weak mind, but is said to have become worse since a blow on the head; this, however, is doubtful. When first admitted, he was dirty in his habits, restless and mischievous; a little attention has rendered him cleanly, quiet, and docile. His intellectual power is very low. His head, which has some resemblance to that of a horse, has the macrocephalous shape. The dimensions are as follows: height of person 5 feet, 11 inches; circumference of head 1 foot, 11 inches; from junction of nasal bones with frontal, to the occipital protuberance 1 foot, 3 inches, to nape of neck 1 foot, 4½ inches; from ear to ear, over vertex, 1 foot, 3 inches; from meatus of ear to ear, round chin 2 feet, 3½ inches. The expression of physiognomy is very characteristic of intellectual feebleness; the brow and eye indicate the effort of attention different to the tranquillity of hebetude, which is so characteristically depicted in the portrait of primary dementia. But the effort of attention is not seconded by any power of comprehension; the expression is that of intense stupidity.

General Paralysis.

J. D., No. 1623. The upper side portrait to the left hand (of the spectator) (Fig. 4), represents a man aged forty-eight, the subject of general paralysis. The cause of his insanity was not known. He had been insane three months before his admission. He had been destructive of clothing, &c., and had been violent to his wife, attempting to pull her ears off. He said that it was his duty to kill her, and

yet that he was always at prayer with her and for her. Although he would kick or scratch any patient who inadvertently touched him, his general condition in the asylum was tranquil, verging gradually to mindlessness. He had, only in a modified degree, the delusions of grandeur so common in this form of insanity. He used to say that he had a gold watch and gold chain, and very fine clothes, but they were in pawn. Ten months after admission, he had two consecutive attacks of that form of convulsions between apoplexy and epilepsy which is common to general paralysis. Soon after emerging from the coma of the second attack, he died in bed in a fainting fit. The body was not examined. The portrait shows the curtain-like face, devoid of all expression, a perfect blank of thought and feeling. The head is well shaped, and the features are handsome; but the amount of intellectual expression is less even than that displayed in the face of the idiot. The brows droop over the orbits, and the eyelids over the eyes. The muscles of the mouth and lips are relaxed, and were the patient to attempt to speak they would twitch and quiver; but even photography cannot represent motion, and the blank void of the features in repose is all that can be shown.

Acute Suicidal Melancholia.

J. B., No. 1680. The upper portrait, on the right hand side (of the spectator) (Fig. 5), is that of a man aged fifty-six, with acute suicidal melancholia. A carpenter, of steady habits, insane four months before admission; had been dull and depressed, and could not attend to his trade; refused to take food, because it was too good for him; was restless by day, and sleepless by night; said that he must be burnt or scalded to death: he made frequent efforts to get at the hot water taps, in order that he might scald himself, and to get to a little duck-pond, scarcely a foot deep, that he might drown himself; ran his head once with violence against a wall, to injure or destroy himself. Constantly undressed himself, and required to have clothing which fastened behind with the asylum buckle. He improved under treatment (opiates at night, and leeches to the temples), but having been visited by his wife, three months after admission, he became much worse; said that his wife was a man dressed in woman's clothes, that she had given him poison in a cake; and from that time to his death required to be fed with a feeding-spoon. Six months after admission, he suffered a severe attack of epilepsy, which was repeated three times during the following month. He died from exhaustion immediately after the last attack.

Post-mortem examination, sixteen hours after death:—Calvarium thick, dense, and irregular, in some places thinner than usual; arachnoid opaque and milky; sub-arachnoid fluid considerable; gray matter of brain paler than usual; the white substance of a brownish-pink hue, most marked in the parts lying over the lateral ventricles; substance of the brain very firm; lateral ventricles normal; soft commissure quite firm; septum lucidum distinct and firm; vessels at base slightly atheromatous; temporal fossæ strongly marked with the impressions of the convolutions. Specific gravity: White matter 1045, gray matter 1036, cerebellum 1040.

Comments.—Death followed epileptic convulsions, from chronic change in the nutrition of the brain. The fear of death and the urgent desire to commit self-destruction, however incompatible with each other they may appear to the sane mind, are frequently coexistent in the insane. This patient was intensely restless,

a condition which, like the tremors of general paralysis, cannot be represented in a portrait. The physiognomical expression is characteristic of anxiety and fear.

Primary Dementia.

S. T., No. 1475. The lower portrait on the left hand side (of the spectator) (Fig. 6), represents a case of primary dementia. The patient, now aged forty, had a severe attack of typhus fever when nineteen years of age, after which, her husband says that "her jaw dropped, and she has never been perfectly right since." This did not prevent her, however, being married to a shoemaker, and bearing five children, the last of whom, six months old, she suckled to the date of her admission, affording an example of one means by which insanity is propagated. She was admitted in a state of extreme filth and personal neglect, in the same mental state in which she still remains, namely, a void of sensation, emotion, and thought. On her blank physiognomy there are no traces of passion telling of former storms of mania, there is not even the slight effort of attention which corrugates the brow of the idiot. She never laughs or weeps, or indicates any want or any annoyance. She knows none of the attendants or patients by name; says she was never married; remembers her maiden name, but appears to have forgotten her married name. If she were accidentally hurt, she would feel but little pain; if she were not fed like an infant, she would die of starvation with little suffering. She is very fat, has a good color in her cheeks, and her physical functions are performed well. The catamenia are suppressed. She seldom moves, feeling no motive to do so. When told to move, she progresses with a short, quick trot, like a young child. She eats ravenously, and would choke herself if her food were not carefully minced. She affords a good example of the extent to which physical health may be retained when the activity of the cerebral functions is reduced to its lowest ebb.

Secondary Dementia.

M. A. Y., No. 1322. The lower portrait on the right hand side (of the spectator) (Fig. 7), represents a woman, aged forty-nine, the subject of secondary dementia. She has been insane two years and a half. The cause was attributed to religious excitement, and the fear of death from disease of the knee joint. The form of insanity which first presented itself, was that of acute maniacal excitement, with delusions of a religious type, and suicidal desire. She thought that her soul was separated from her body, and that it was forever lost. She attempted to strangle herself, and also to beat her brains out by running against walls. After admission, this violence subsided, and she passed into a state of chronic excitement, which, with gradually decreasing mental powers, has continued to the present time. She sleeps badly, and believes that she is visited at night by an old lover, towards whom she uses very bad language, and whose supposed attempts to get into bed she resists vigorously. Although quiet enough during the day, she is often, in consequence of this delusion, very noisy at night. During the day, she holds quiet conversations with this lover, and with persons whom she has known in early life. She not only hears but sees these people, and this hallucination has impressed that earnest inquiring look, so faithfully given in the portrait. Her memory of early years is much stronger than that of events which have just passed. She cannot tell our

name, or the names of the nurses, or of any of her fellow-patients; but she can remember the names and residences of the people who lived in the neighborhood of her home. She takes her food well; but her attention is so feeble, that without great care, she would lapse into dirty habits. The catamenia are regular. The general expression of the face is that of mindlessness, combined with the deep lines of emotional excitement. From the presence of the latter, her physiognomy presents a great contrast with that of the instance of primary dementia on the opposite side of the plate. The face also presents a striking instance of that want of harmony between the expression of the different features, which is often so characteristic a trait of insane physiognomy. The upper part of the face, viewed alone, might be taken to belong to a person in a state of acute mania; the lower part, viewed alone, might be mistaken for utter fatuity or idiocy.

SOME CASES ILLUSTRATING TREATMENT.

Mania with Violence.—Disuse of Restraint.—Recovery.—Some years since we were called upon to attend a lady of fortune, suffering from violent and destructive mania. Peculiar circumstances rendered it needful that she should be treated at home. She had been ill about two months. We found her in the charge of a female attendant, from one of the London asylums, who, as usual, had brought a complete set of restraining apparatus in her trunk. The patient was in her drawing-room, which had been denuded of all furniture, except two old chairs and a sofa without covering. On the carpetless floor, dressed in an old wrapper, without shoes (which had been taken away lest she should kick the nurse, or throw them at the window), sat a lady with handsome, haggard features, volubly abusing her attendant, a fine, high-spirited young woman, who indicated too much sensibility to the unpleasant epithets poured upon her. On examination, we found our patient to be suffering from what Esquirol called *manie raisonnante*—high mental excitement without delusion, accompanied by violence of conduct, more or less under control. Under the treatment to which she had been subjected, this violence had not been controlled. In addition to bad and abusive language, she frequently attacked the nurse and the servants who assisted her, spat upon them, kicked them, bit them, broke windows, destroyed clothing and bedding, threw her plate and food against the wall and the windows, and was altogether as violent as she well could be. The treatment to which she was subjected was, the imposition of the strait-waistcoat, whenever her violence and insults exceeded the limits of the nurse's endurance. At night the lady was put into the strait-waistcoat, and tied down to the bed; the door of her room was locked, and she was left to herself until morning. She complained bitterly of this treatment, and heaped opprobrious epithets upon her nurse. We substituted for her services those of a woman who was probably her inferior in every natural qualification for a good nurse, but who had never seen a strait-waistcoat applied, and would not have known how to put one on. Compelled to rely on other means than those of forcible repression, this woman exercised towards her charge the soothing influences of never-failing kindness. For a time she underwent as much abuse as her predecessor. But "a soft answer turneth away wrath;" and our mischievous friend soon found it no fun to shoot her arrows of sarcasm and contumely in a direction where they were obviously not felt. The display of violence diminished *pari passu*, with the war of

words. The patient was made comfortable in the condition of her room and of her dress. The second story of her house was devoted solely to her own use, so that in her restless moods she could walk from chamber to chamber. The windows of her bed-room were fitted with convenient shutters, and a second bed arranged in it; so that one or two assistant nurses could sleep or watch, according to the state of the patient at night, who sometimes slept well, and at others was very restless,—when she would walk about the room for hours, until in weariness she went to her bed, and often slept soundly, during the last few hours of the night.

In the daytime she took walking exercise in her grounds, and after a while, walks into the country beyond; and, in two months from the date of her change of nurses, her state of mind was as good as that which she enjoyed previous to the accession of maniacal symptoms. In this case there was no medical treatment. Morphia was prescribed for the sleeplessness from which the patient had suffered; but the first dose having been followed by headache and feverishness, it was discontinued, and no other treatment was adopted. The very marked change for the better which took place in her condition, was attributable solely to the change in the moral influences to which she was subjected. When the case approached convalescence, the nurse who had been so successful was replaced by an educated lady, who gave her valuable services as the companion of the patient; an arrangement which proved in every way satisfactory. It may here be remarked, that the person best adapted to conduct a case during its more demonstrative period, is often by no means well suited to do so during its first or prodromic, and its third or convalescing stages. It is not that persons of educated mind will not submit to the indignities and annoyances incurred during attendance upon cases of active insanity; motives of affection, of benevolence, or of gain, may overcome such repugnance; but it is that the educated and sensitive mind appears practically ill-adapted to come into useful contact with the turbulent emotions and indiscriminating perceptions of the acutely insane. But, at the period before insanity is developed, and during that before convalescence, when its manifestations become less gross, the finer tact and perceptions of an educated person will frequently prove of the utmost service in the moral guidance of the patient. The above is an example of the tranquillizing and curative effect of that demeanor which a nurse is compelled, by the non-restraint system to adopt; and doubtless results from the operation of that law of our nature which may be called *emotional imitation.* This law, which explains the easily moved enthusiasm of crowds, and the causeless panic of armies, is one of the most powerful agents in the moral treatment of the insane. By the force of this law, a susceptible and ill-trained attendant allows herself to be placed in emotional *rapport* with an angry patient; a well-trained and good-humored attendant, on the contrary, places the patient in emotional *rapport* with herself. It is a fruitful theme, of which our limits scarcely permit us to state the thesis.

Sthenic Mania.—Recovery under the use of Tartrate of Antimony.—A. C., No. 564. Wife of husbandman, aged thirty-four. A month before admission, had a serious quarrel with her husband about the sale of some apples; from that time has been excitable; has taken knives, threatening to injure others and herself; has a delusion that she is a wheelbarrow. *Mental State.*—Has good-humored and manageable excitement, but talks bitterly of her husband's ill-usage; is occasionally irritable and passionate. *Bodily Condition.*—Appearance healthy, head cool, ap-

petite good, bowels confined; pulse firm, not quick; sleep uncertain. *Treatment.*—Aperients, antim. p. tart. gr. $\frac{1}{8}$ ter die. The antimonial produced no nausea; the patient slept well, and took food heartily; began to employ herself, and generally improved. After a month, and at the time of the catamenial period, high maniacal excitement came on, with passionate violence; she was always jumping and racing about, pushing and striking every one she passed; talking incoherently; for three nights sleepless, out of bed, and noisy: xl. o. n. The excitement subsided in about a fortnight; she gradually improved in temper, and became cheerful and industrious. During the next two months her delusion disappeared; but she maintained that she had not been out of her mind. In the next month she changed her mind on this point, and was discharged cured six months after admission.

Acute Mania subsiding into Quiet Melancholia.—Recovery.—J. N. G., No. 555. An engineer; a clever, industrious man, of steady habits. Three months before admission experienced a severe disappointment, in not getting an order for a certain steam engine which he had calculated upon; he became excited and irritable in manner, neglected his work, and acute mania gradually came on. *Mental State.*—Extreme excitement; believes that he is going to be shot; asks every one why he is not killed, and begs of them to kill him; shouting all night long; tears his clothes, destroys his bedding, scribbles on the walls and doors; jumps at the gas pipes, and attempts to pull them down; very destructive and violent; wets and dirties his bed; miscalls persons, fancying he has seen every one before: no power of fixing his attention. *Bodily Condition.*—Expression pale, wild, haggard; skin clammy, extremities cold, head cool; losing flesh; pulse small and quick, bowels constipated. *Treatment.*—Æther sulph.; tinct. opii. aa. m. xl. ex. aqua, 6tis horis, purgatives on alternate mornings. Under this treatment he gained sleep, took food, and improved greatly; still remained occasionally violent, dirty in his habits, quarrelsome and abusive, muttering to himself and swearing. After five months—has improved considerably; has been employed in the engine-house, but requires careful watching, as he is listless, abstracted, and low-spirited. Æther and opium now omitted. Under the influence of agreeable occupation, this state gradually wore off during the three following months, and he was discharged recovered seven months from the time of his admission.

Mania from Debility.—Recovery under the Use of Quinine and Good Food.—J. B., No. 1731. A young man, aged twenty, of no occupation. His mother is insane; he has had feeble health for many years. *Mental State.*—Maniacal excitement and restlessness, accompanied by delusions that he has the best breed of black horses in the world,—that he is the strongest man in the world, and can throw the best wrestler in Devon or Cornwall. Violent—attempting to bite and kick, and mischievous. *Bodily Health.*—An exceedingly small, frail, little person, with rachitic curvature of the spine, so great that his back is like the letter D. Body very emaciated and anæmic. Pulse very small and rapid; head cool; tongue clean; sleep, none for four nights. *Treatment.*—Morph. mur. gr. $\frac{1}{2}$, h. s. omne nocte—Quinæ disulph. gr. ii, Vin. Rub. ℥i, ter die. After some days, cod-liver oil was substituted; but the oil produced sickness, and the quinine and wine were again resorted to, and continued to a week before his discharge. Extra diet, with strong beef-tea and new milk. The patient gradually gained flesh, and acquired

strength, and his mental condition improved *pari passu*. He was discharged recovered, three months from admission.

Mania, with limited Delusions.—Opiate Treatment.—W. C., No. 551. A master carpenter, in good circumstances, of steady and domestic habits, said to have suffered chagrin from want of children by his marriage. Six months before admission, symptoms of insanity first showed themselves in a sudden fancy he took to join the Odd Fellows' society, about which he constantly talked in an excited manner, saying, that all who were not Odd Fellows would be ruined; he took a violent antipathy to his wife, whom he accused of infidelity, and of attempts to poison him; has been violent to his wife; followed his brother on the railway, to warn him of spirits which he had seen on the platform; refuses food, saying it is poison. *Mental state.*—Is very morose, obstinate, and dissatisfied; angry at his confinement, but most angry at his wife, whom he says he hears outside his room at night; obstinately refusing medicine, and at times abusive, passionate and violent. *Bodily Condition.*—Head over warm, with frontal pain; tongue white; urine healthy, acid; pulse quick, weak; sleep disturbed. *Treatment.*—Blister to nape; Pil. Hydrarg. with aperients; occasional shower-baths, Tr. opii, ʒi, o. n. After six weeks Ol. Tiglii ad caput tonsum; after two months, Æther S. Tr. opii. aa. ʒss. ex aqua ter die; repete Ol. Tiglii ad caput. The patient made no progress for two months from admission. After that time the opiate treatment then adopted appeared to soothe the irritability of his system, and after the third or fourth month he improved rapidly; he was discharged cured in Dec. 1848, and has remained perfectly well ever since.

Suicidal Melancholia, changing to Mania.—Treatment for cerebral Hyperæmia. G. N., No. 588. A gentlewoman aged fifty. Has been a most active, intelligent woman, exemplary in all the social relations, and ruling a large family with much judgment and force of character. Supposed cause of insanity the climacteric period. Insane three months. *Mental State.*—Much distressed, full of gloomy forebodings, distressed about pecuniary matters, wondering how things are to be paid for, thinks all her family are ruined, &c.; hears noises which sometimes she wonders at and cannot understand; at others, she recognizes them for the voices of her children, and then holds conversations with them; has great weariness of life; begs to be hung, or otherwise destroyed, and makes constant efforts to commit self-destruction; watches every opportunity to secrete articles to tie round her neck, and grasps her throat with her hands until she becomes black in the face; when baffled in this, thrusts articles down her throat. All night a special attendant lies on a bed close to her, and the utmost vigilance is needed to prevent the accomplishment of her intention. *Bodily Condition.*—Strong frame; sallow complexion, dense black hair, yellow conjunctiva; forehead cool, vertex over-warm; complains of a sense of fulness and oppression in the head; fixed melancholy expression; good sized, square-shaped head; tongue clean, bowels torpid, functions of the uterus suppressed, pulse sharp, rather strong, 136; sleep variable, generally bad. *Treatment.*—Ext. aloes gr. vi, Pil. Hydrarg. gr. iii, ò. m. Lotio. evap. ad caput tonsum. Hiruds. vi, post aures—after ten days, Calomel gr. vi, P. Jalapa gr. xii.—Ung. Hydrarg. ʒss. in axil infric,—the system brought slightly under the influence of mercury. In third month no material change, the sleep somewhat better, pulse varying from 100 to

120, sharp, and not easily compressible; the urine loaded with lithates. She has a constant habit of picking her fingers, producing sores at the roots of the nails; makes constant attempts at self-destruction. Still much heat of the vertex, which is aggravated, together with all the other symptoms, if the bowels are not kept freely evacuated. The treatment was free evacuation of the bowels by means of calomel and jalap, seidlitz powders, and croton oil in pill. Six leeches were frequently applied to the temples, once, twice, or three times a week. Warm baths every other night, and muriate of morphia, gr. ½ every night. After five months there is a decided improvement; sometimes talks rationally and cheerfully, but has paroxysms of depression, alternating with excitement; still very suicidal; thinks that her daughters are concealed in the house; has become inclined to passionate excitement, to strike people, and destroy her clothes; sleeps tolerably; the pulse has fallen to between 80 and 90, and is soft and compressible: is always worse when the bowels are not freely evacuated, the head becomes hot, and the pulse rises. After seven months, improvement continued; more tranquil, and can be left more by herself without fear of suicide; still thinks her daughters are in the house, and that every stranger she sees is one of them; works at her needle; has frontal headache; eye restless, suspicious, and angry; appetite and sleep good. After six months, she completely lost her suicidal tendency, and her melancholy gave place to a continued angry excitement; very obstinate, and impatient of interference; full of complaints at being kept from home; it often required several nurses to administer her medicine; sleep sometimes good, sometimes she walks her bed-room all night. *Treatment.*—Warm baths, Antim. P. Tart. gr. ⅔ ter die. The antimony produces no nauseating or debilitating effects, the appetite indeed remains good under its use, and the patient gains flesh. She retains her angry, wilful bearing, with strong personal antipathies; while her sarcastic remarks, and shrewd observation of the weak points in the character of those with whom she comes in contact, show that the intellectual faculties retain their full vigor. Improved in the eleventh month, but in the twelfth she became more angry, passionate, and obstinate; says her family are locked up here; the countenance flushed, the head hot, the bowels sluggish notwithstanding aperients; the pulse varying from 100 to 120; no suicidal tendency; sleep fair. *Treatment.*—Calomel gr. i, ter die. Magnes. Sulph. P. Jalapæ, p. r. n., occasionally Ol. Ricini ℥ ii, and to avoid resistance to medicine, Jalapine gr. v, in food. The calomel continued twenty-eight days did not affect the gums. During the twelfth month great fluctuations,—sometimes angry, railing at every one, and at others conversing rationally and courteously. During the thirteenth month improvement continued; talks rationally of her prospects of returning home, and of the different members of her family, whom she now never speaks of as being in the building; has a clear healthy expression, and fuller face; the pulse remains near 100; active aperients still needed; Ol. Ricini ℥ ii, or calomel and Jalap, h. s. Sulph. Magnes. ℥ vi, mane. From this time she slowly but steadily improves; entirely loses all delusions, and angry irritable state of temper, enjoys quiet society, and amusements; warmly expresses gratitude for attentions paid her, and fears she has given great trouble. Sleep and appetite very good; has a pleasant, cheerful expression of countenance; the eye, however, is flashing and restless, the pulse continues above 90, and the bowels require daily doses of castor oil. She returned to her home perfectly recovered eighteen months from the time she came under our care. Since that time, now ten years ago, she has been the

active mistress of a large household; and although she has suffered grief in the loss of children, she has not shown the slightest indication of a relapse. The termination of this case, in which the symptoms were so severe and prolonged, in a manner so completely satisfactory, may be attributed to the energetic employment of medicinal remedies.

Suicidal Mania with Chorea relieved by Opiate Treatment.—S. S., 1595. A boy aged twelve, all his lifetime affected to some extent with chorea. No cause of insanity known. Had an attack of mania two years since. A few days before admission made an attempt to hang himself, but was cut down; the rope has left a distinct mark round the neck. Was admitted in a state of acute mania, with propensity to violence and self-destruction. He attempted to dash his head against the walls; and being placed in the padded room, he lay on the floor crying, "Oh, do kill me! Dash my brains out! Oh, do let me die!" He kicked and bit at the legs and hands of the attendants who had to feed him. He twisted a stocking round his throat, with intent to suffocate himself; and on its being removed, he thrust it down his throat with the same intent. Head very hot, pulse quick, tongue red; refused food; sleep, none. *Treatment.*—Warm bath, with cold arroisoir to head for half an hour. Morph. mur. gr. $\frac{1}{3}$ stat. and repeated every three hours; castor oil. After four days, four leeches to temples. Morph. mur. gr. $\frac{1}{3}$ twice a day. Under these remedies the suicidal mania ceased. The morphia was continued twice a day for some weeks, with the effects of procuring good sleep, with quiet mental state during the day, improved appetite and physical strength. This patient recovered, with the exception of the chorea (upon which various remedies, nitrate of silver, oxide of zinc, &c., have had no effect), and a most passionate temper.

Mania relieved by preventing Onanism.—J. B., No. 1710. A carver and gilder, aged twenty-three, unmarried. Not hereditary, but the father was an habitual drunkard; one of his brothers is a patient in the asylum, and another died epileptic. No cause assignable except father's drunkenness. Second attack. Insane eight days before admission. *Mental State.*—Violent in conduct; using abusive, blasphemous, and obscene language; has many delusions, the leading ones being—that he is a great personage, that an immense sum of money has been stolen from him, and that he shall be Mayor of Plymouth, &c.; power of fixing attention lost. *Bodily Condition.*—Head hot, conjunctiva suffused, face pale, muscular movements violent, pulse fast and full, bowels constipated. *Treatment.*—Evaporating lotion to shaved head; ten leeches to temples; castor oil. Six days after—calomel, gr. x.; p. jalap, gr. xv. After a month, tr. hyoscyami; mist. camph. ana $\frac{3}{2}$ omni nocte. A warm bath, with cold arrosoir to head, for half an hour every other night. After two months (the head having become cool) the violence subsided, and symptoms of imbecility appeared—croton oil rubbed on the shaven scalp; extr. aloes, gr. xv, omni mane. After four months—ext. aloes, reduced to gr. v. The patient appeared likely to pass into a state of dementia. He was discovered to be greatly addicted to Onanism; to prevent this, acetum lyttæ was applied under the prepuce, with success. He gave up the habit, and from this date gradually improved. He is now convalescent, but cannot sleep without the nightly dose of hyoscyamus. The improvement of the bodily and mental condition, after the habit of self-abuse was prevented, was very marked.

Mania.—Recovery under Emmenagogue Treatment.—A. C., No. 1641. A passionate, excitable girl, aged eighteen; her father, brother, father's brother, and mother's brother, all insane. Two months before admission the catamenia became irregular, and mania supervened. She was exceedingly violent, running round and round rooms and airing courts; talking all day and night to persons whom she fancied she saw around her. This active state subsided in about two months from admission; she became excessively passionate and indolent, would lie on a bench or couch all day long, and, if disturbed was violent and abusive. Under treatment she improved, was moved into a quiet ward, and employed herself a little. The catamenia remained suppressed until the application of galvanism, seven months after admission; this brought on the catamenia; and complete mental restoration followed within a few weeks. The treatment was—warm baths, aperients, muriate of morphia gr. ½ h.s. After a month—Pil. Ferri. C. gr. xv, ter die, used for three months without benefit; afterwards leeches to the groin without effect. After a month the electro-galvanic current was passed across the pelvis for half an hour daily; it succeeded in two months. It was used for a few days before the monthly period for two months longer. She was discharged recovered eight months after admission.

Mania; recovery on the removal of profuse Leucorrhœa.—M. A., No. 1707. The wife of a butler, aged thirty-seven. A year ago was deserted by her husband, since when she has endured great distress, and is said to have been intemperate and dissolute. Insane six months. *Mental State.*—Abusive and violent, breaks glasses, very irritable; fancies every one is her enemy; restless, with feeble power of attention. *Bodily condition.*—Pale and emaciated, with very anxious expression; pulse natural, tongue pale, sleep bad, appetite uncertain, functions of uterus irregular, profuse leucorrhœa. *Treatment.*—After some days, decoct cort querci, ℥x; træ myrrhæ, ℥ii; alumin ℥iiii. Ft. Injectio per vaginam nocte maneque. This succeeded in stopping the leucorrhœa. After three weeks—quinine, gr. ii; acid sulph. dil., m. xv ter die. Under this treatment she recovered, and was discharged in good health, three months after admission.

Mania inclining to Dementia, from the irritation of a foreign body in the Vagina.—J. W., No. 560. A laundress, aged sixty-one; stated to have been insane four months. Has made many attempts to destroy herself. Is wild and restless, pulling off her clothes, tearing her hair; says she is the queen of heaven. Is very violent, swearing, and incoherent. Pulse small and quick, head and skin perspiring and not hot; desire for food voracious; sleep broken. Antim. P. Tart. gr. ⅓ was given three times a day, for four days. The patient rapidly improved, became tranquil and industrious. A month after admission she had a febrile attack, with severe lumbar pain. This recurred five times, producing great languor and debility, and causing her to keep her bed. Various means of treatment—warm baths, alteratives and aperients, blisters, &c. &c.—were adopted without effect. The patient became very weak, with flying pains all over the body; and at length she could not for a long time leave her bed, and her life seemed in imminent danger. Five months from her admission, a disagreeable purulent smell was observed about her; and on seeking for the cause, an offensive vaginal discharge was observed, which she had doubtless taken measures to conceal. We desired the

assistant medical officer to examine the vagina with the speculum. This he did, in opposition to the strenuous efforts of the patient, and reported to us the existence of extensive malignant disease. The cervix and part of the body of the uterus were found occupied by a large, ragged, foul ulceration; the parts around of a greenish-black color; and the whole covered with a most offensive discharge. Having ordered the use of chlorinated injections, after some days we used the speculum ourselves; the patient again resisting most vigorously, and requiring to be held in position by nurses. We found a large ragged ulceration occupying the cervix uteri and the upper end of the vagina, lying across which appeared a great piece of wood. This we easily removed with the finger, and found to consist of a child's toy *wooden trumpet.* When the first examination had taken place, this thing had been concealed by granulations and discharge. The patient, of course, strenuously denied having introduced it; and it certainly is singular that, at her age, she should have resorted to such a method of self-abuse. After the removal of the irritating cause the vaginal discharges ceased, and the patient began to improve; but her bodily health had been so broken down that it took several months to restore. She was discharged recovered twelve months after admission.

Mania with resemblance to delirium Tremens.—A farmer, single, age thirty-three; not hereditary. A professed wrestler. For the last two months has been attending wrestling matches in various parts of the country, maintaining himself upon the prize-money which he obtained. Came to his brother's for a wrestling match in Cornwall; was very excited and apprehensive of danger; was tied down to a bedstead, which he tore up and used as a ram to burst open the door and force out the window-frame. *Mental State.*—Greatly agitated; says that men, spirits and demons are pursuing him, and attempting to kill and poison him; that demons in the shape of little terrier dogs are eating his flesh; he tries to tear them off, and with his powerful grasp he inflicts bruises upon himself in so doing; fancies his medicine is poison, and resists taking it. *Bodily Condition.*—Head cool and free from pain; skin warm and clammy; tongue broad furred; bowels open; evacuations dark and copious; urine normal; pulse 92, weak; sleep broken; no muscular tremors. *Treatment.*—Calomel gr. vj, stat. Haust. Aloes cras mane, Æther ʒi, Tr. opii m. xxv, ter die. After two days, Tr. opii, ʒi, e cyatho cerevisiæ ter die. After ten days the patient was free from delusion, and fast gaining natural healthy state. Was discharged recovered one month from admission.

Acute Melancholia from Moral Causes.—No Improvement under Treatment.—M. P., No. 1691. A farmer's daughter, aged forty-four; not hereditary. *History.*—Had for several years been living in habits of adultery with a married man. The man's wife was in ill health, and when she died he promised to marry M. P. When the wife did die, the sister of M. P. endeavored to obtain this man for her husband, causing much jealousy, and the man eventually refused to marry either. Soon afterwards the patient became depressed, and attempted to hang herself. When admitted was greatly depressed; says her body and soul are lost, that she shall be burned alive, that she sees hell flames, that she cannot be cured, and wishes she was dead; constantly moans, and shouts aloud, and strikes other patients. *Physical Symptoms.*—Head hot, pulse quick and feeble, sleep disturbed, catamenia scanty. *Treatment.*—Tr. opii, m. xxx, Æther Sulph. m. xx, horis. ʒiiis, continued three months with some improvement. Warm baths for thirty

minutes at ninety degrees, with arrosoir of cold water on shaven scalp; this treatment procured much better sleep. After three months, the health of body having improved, but the head being hot and the eyes suffused, leeches were occasionally applied to the temples. Want of sleep, with great distress of mind, continuing, five grains of crude opium were given three times a day, with good effect for the time, but it begun to cause sickness, and the head again being hot it was discontinued. The baths were recommenced, and she was cupped to six ounces from the nape, four times, at intervals of a week. This caused relief, and the patient has slept better and been more tranquil. She has the new delusion that her brain is too large, and that it is bursting through the skull; no loss of power of attention, or memory. Still under treatment; prognosis unfavorable.

Quiet Melancholia cured by Opium with Æther.—W. F., No. 1427. Married; a fishmonger, aged fifty. Not hereditary. Insane two months before admission. Cause, a dispute with the Town Commissioners of Improvement respecting some thatched houses, which she refused to slate, and which, as they were considered dangerous, the Commissioners seized and slated. *Mental State.*—Refuses to answer questions; constantly says she must die—she has no money, and must starve. Frequently wept; walked about, wringing her hands, day and night; could not be kept in bed. Before admission had attempted suicide several times, by drowning, and thrusting articles down her throat. *Bodily Condition.*—Head hot, extremities cold; tongue covered with a brown fur, bowels constipated; refuses food; pulse quick and feeble. *Treatment.*—Calomel, gr. v; pulv. jalapæ, gr. xv, stat. Four days after admission—tr. opii, m. xl; æther sulph. m. xxx, ter die. Under the influence of this medicine she improved rapidly: sleep and appetite improved, and the constipation ceased. In seven days her delusions disappeared, and she became cheerful and active. Was discharged cured, one month from admission.

Melancholia with Hallucination.—Recovery without Medicinal Treatment.—M. N., No. 1729. An artisan's wife, aged forty-eight; of steady, industrious habits. Not hereditary. Second attack. Supposed cause, the excessive drinking of strong tea. *Mental State.*—All things appear of a red color. She sees most frightful animals and spirits, of a blood-red color, which she knows are not real, but which makes her wretched, and prevents sleep. Before admission, she attempted suicide by hanging. *Bodily Condition.*—Head hottish, extremities cold; generally relaxed, ill-fed and nervous. *No Medicinal Treatment* was adopted. Under the influence of a regular mode of living, with cheerful occupations, she recovered in three months from admission.

Melancholia without Delusion, from Distress.—Recovery from Good Food.—W. P., No. 1684. An agricultural laborer; not hereditary. A year before admission had erysipelas, which was followed by ill health and incapacity to work. He had to support himself, a wife, and three children upon four shillings and sixpence a week derived from a sick club. He said he had been half starved, and that this alone was the cause of his mental depression, of which he was fully conscious. *Mental State.*—Extreme apathy,—he would sit in one position all day long, took no notice of anything passing around him; had no delusion, but great depression of spirits. He was very feeble and emaciated, and had cough from chronic pleurisy.

For this, Hydrarg. Bichl. gr. 1-10th ter die was ordered, with benefit; and under the influence of good food he gradually recovered, and was discharged four months after admission.

Melancholia from Chagrin.—Recovery without Medicinal Treatment.—V. W., No. 1687. A gentleman's bailiff, aged fifty-five; the father died insane. This patient had borne through life an excellent character, and had been ostentatiously attentive to his public religious duties. Twelve months ago he married a young woman, and six months afterwards was blessed with offspring. This premature event brought upon him the jeers of those who saw in it a contradiction of his professions of sanctity. He became gradually depressed, said he had ruined his master, whose property he had wasted; that his sins were many, and could never be forgiven; that he must die, and go to hell, and the sooner the better. Had a heavy, dejected appearance, and dulness of attention. Head and skin hot and moist; sleep moderately good. This patient had no medical treatment. He was employed at first in the garden, and subsequently in shooting excursions, in which he was of much use, being an excellent sportsman. He slowly and gradually improved, and was discharged six months after admission, and has remained well since.

Melancholia from Remorse.—Recovery without Medicinal Treatment.—N. N., No. 1660. Had been for many years the trusted attendant upon an insane lady. Upon the death of this person her friends settled upon N. N. a handsome annuity, for her faithful services. She gradually became melancholic, as she said from remorse at not having done her duty to her late charge, whom she had permitted to be ill used, and placed in severe mechanical restraint by the medical man in whose house she resided as a single patient. She said that her soul was lost forever, that there was no hope for her, that her sins were mountains high; was most anxious to resign her annuity. She was dull and listless and emaciated; but her bodily functions were normal. No medicinal treatment was adopted; she was made to occupy herself. For six months she did not improve; she then improved rapidly, and was discharged recovered nine months from admission.

Mania from Grief.—Recovery under Opiate Treatment.—M. D., No. 1672. A master chimney-sweep, of industrious and steady habits, gaining two or three pounds a week by his trade. His wife ran away with another man twelve months before his admission. After this, he became intemperate, and changed in character. He had been maniacal six weeks before admission. Was very violent, restless, and noisy; said he saw Christ bodily, that he had a mission to convert the world; uses blasphemous and disgusting language. Head hot, pulse quick and weak, body emaciated; no sleep. *Treatment.*—Warm bath, with cold to head, thirty minutes; morph. mur. gr. ½ ter die; this drug was continued six months; attempts were made to diminish the quantity, but with bad effects. After three months he gained strength and flesh, the head became more heated, the conduct quarrelsome and violent. A pill, containing half a minim of croton oil, ordered every second day. This produced hypercatharsis, followed by great improvement in the bodily state; the appetite also improved. This continued under the occasional use of Ext. Aloes, gr. x. The patient was discharged recovered six months after admission.

Mania from Grief.—Opiate Treatment.—A. W., No. 1658. A married woman, aged fifty-seven, of quiet, domestic habits, and naturally cheerful temper. Became insane immediately after the death of a son and the seduction of a daughter, both of which events occurred about the same time. Said she was under the terrible power of witches, who whispered into her ear that her family were to be burned. She believed all her family to be dead, even though she saw them about her. Said their letters were forged. Obscene in her conduct; said the female patients are men. She was highly suicidal, and attempted to injure herself by throwing herself with violence on the ground, causing bruises of the head and face. Head hot, extremities cold, pulse natural, tongue red and glazed, sleep lost. *Treatment.*—Castor oil; blue pill and aloes; morph. mur. gr. ½, every night, continued for three months without improvement. At this time, she became very restless, the conduct violent and obscene, the delusions fixed. Ordered croton oil to be rubbed on the shaven scalp, and a grain of muriate of morphia to be taken three times a day. This was followed by the happiest results: in the course of a few weeks, she gave up her delusions, but remained depressed for some time. Was discharged cured six months after admission.

Dementia following Brain Fever.—Recovery under Tonics and Moral Treatment.—E. T. No. 1654. A mantuamaker, aged twenty-two. One uncle committed suicide, another was insane. Four months before admission had brain-fever; afterwards her mind was observed to be quite weak; she was foolish, irritable, and frequently wept and laughed without cause. She was exceedingly mischievous, destroying windows and clothing without apparent motive. She was quite inattentive to the calls of nature, and had consequently to be treated in the idiot ward. No power of attention or memory. Appearance quite idiotic; the saliva running from her mouth. Body anæmic and emaciated, temperature low, appetite fair, sleep good, catamenia suppressed. *Treatment.*—Pil. ferri co. gr. x, ter die; oleum jecoris aselli, ℥ss, ter die. Great physical improvement; mental condition remaining much the same. After a month, croton oil rubbed on the shaven scalp, followed by marked improvement in the mental state. This was followed up by diligent moral treatment. One of the nurses employed her, danced and sung with her, and made her a constant companion. Under this treatment, she gradually recovered the full power of her mind, and was discharged recovered nine months after admission.

Acute Dementia from Suppressio Mensium.—H. M., No. 1467. A single woman, aged nineteen. Twelve months before admission she caught a bad cold during the catamenial flow, which was arrested. In her present state five weeks; can scarcely be made to speak or move; when urged, she says—"I shan't! d—n you, get out!" Resists medicine violently; requires to be fed; is exceedingly filthy, eating her own fæces so as to produce frequent sickness; pulse natural, bowels much confined, tongue white, sleeps heavily. *Treatment.*—A drop of croton oil in half a drachm of olive oil placed in the mouth every other day. After the resistance of medicine was overcome—Decoct. Aloes C. ℥i, o. m.; six leeches to the groins, with warm hip bath, once a month. After two months, some improvement; begins to feed herself. After five months, begins to work a little in the ward, and to discontinue her filthy propensities. After seven months, the catamenia reappeared, and a

marked change immediately followed; she became talkative, lively, and high-spirited, according to the bent of her natural disposition; she was, however, docile and industrious. Fearing a relapse, she was not discharged cured until three months later.

Acute Mania becoming Chronic under Treatment.—A. P., No. 1222. A cook, well educated; four years ago had a blow on the head, from a fall. For two years had betrayed oddity of manner, and her memory had failed; still she "kept company" with a footman living in service in the same house with her. Her lover destroyed himself; after which the rector of the parish talked to her religiously, and prevailed upon her to receive the sacrament. Since that time, she has believed herself in hell, and that Mr. A., the vicar, is the only person that can get her out; she escaped from her friends, got into his house, and broke his conservatory windows. Brought to the asylum, she was violent to the attendants and patients, destructive of clothing and glass; libidinous in expression and conversation, and given to masturbation; the head hot, otherwise strong, and in good health; functions of uterus regular. *Treatment.*—Daily shower-baths, blisters over the ovaries, occupation in the laundry; under this, the delusions and symptoms of nymphomania subsided, and the patient became tranquil and manageable; the memory remains impaired, the temper irritable, and the conduct prone to violence, under any excitement. Probably some mischief has resulted from the physical cause, which remains after the maniacal excitement, which followed the moral cause, has disappeared.

SOME CASES ILLUSTRATING CAUSATION AND PATHOLOGY.

Monomania, with Religious Exaltation, of long standing.—Death from Perforating Ulcer of the Intestines.—A. V., No. 579. A farmer's daughter, unmarried, aged fifty-three. Has been considered insane many years, and previously confined in four asylums. On Sunday, went into the market-place of N——, and attempted to preach, thus creating a disturbance. A week before her admission, she smashed the window of a tradesman who had once been concerned in placing her in an asylum. After admission, the mental state was that of religious enthusiasm, with a haughty, dictatorial temper; she frequently preached—or, as she said, lectured the inmates, in a loud, pertinacious manner. She insisted vehemently on her perfect sanity, and vowed legal vengeance on all concerned in her detention; obstinately refused employment, but, with the exception of the loud preaching, was quiet and obedient to rules. Her intellectual powers, displayed in language and argument, were considerable; she had no delusion. *Bodily Condition.*—Sleep sound, pulse good, head and skin cool; all the functions regular; catamenia naturally suppressed. Including a period of about nine months, during which she resided with her brother, a farmer living in the neighborhood, she remained in this state two years and a half. At that time she looked ill, and was ordered to bed; but she refused to acknowledge that she had anything the matter with her. She had a slight swelling in the wrists, and a trifling cough, and was thought to have a rheumatic cold. After three days, the expression suddenly became pinched and anxious; the pulse small—120,—the tongue white, and the abdomen tender to the touch. Turpentine fomentations to the abdomen, and grain doses of calomel every

four hours, were ordered: after twelve hours, she became rather suddenly weaker, and died. *Post-mortem Examination.*—Circumference of cranium 1 foot 8½ inches; weight of brain 3 lbs. ½ oz. av.; capacity of brain for water 50½oz; breadth of gray matter ·08 of an inch; sp. grav. of cerebrum 1·041, of cerebellum 1·044; the dura mater was adherent to the cranium; the choroid plexus contained many cysts; the substance of the brain was natural in color and consistence; there was rather more subarachnoid fluid than was natural; the arteries at the base of the brain were slightly atheromatous. Death had been caused by a perforating ulcer of the small intestines, near their lower end; the other organs of the body were healthy.

This case affords an example of the slight deviations from the normal state which take place in cases of emotional monomania, or moral insanity, which arise from exaggeration of the natural disposition. This patient was only some degrees removed from those offensive preaching women one occasionally meets with in society. Probably marriage and the cares of a family would have saved her from an asylum. What, in this country, can a single woman do, with an energetic brain weighing three pounds and a half, but get into some trouble or other?

Acute Nymphomania, with Suicidal Impulse.—J. M., aged 30. A dress-maker. Three years before, had an attack of mania from which she recovered, and had been well ever since. She was a Roman Catholic pervert from the Protestant religion, and the causes of her first attack had to do with her change of faith. For her second attack no cause could be assigned. Without any previous symptoms of insanity, she went into the parish church of A——, during divine service, threw herself prostrate upon the pavement, and made a scene. On being moved she was found to be "raving mad." A strait-waistcoat was placed upon her to prevent self-destruction; but, after this, she bit off the end of her tongue, and attempted to bite off her lower lip, but only succeeded in lacerating it fearfully. She dashed herself against a wall, and bruised herself so, that when admitted into the asylum on the following Wednesday, her disfigured face scarcely appeared human. She was bruised from head to foot, and her right ankle was abraded from ligatures. She was sensible, and did not appear to be suffering from any delusion; but she made repeated efforts to beat her head against the will, and said she must kill herself. She refused food. The head was very hot. The catamenia were flowing on her admission. She was ordered a warm bath for an hour, with cold arrosoir on the shaven scalp. She tried to drown herself in the bath, by keeping her head under water. The bath had an excellent effect, and was followed by sleep. It was followed up by a drachm of black drop, night and morning, and by a dozen leeches to the temples, which were repeated three times. She was never left, as she seized every opportunity to suffocate or strangle herself. In the course of five or six days the symptoms abated greatly, and in nine days from her admission, her mental health appeared to be perfectly restored. Her features were still greatly disfigured, but she occupied herself with needlework, spoke reasonably and gratefully, and was in her perfect right mind. Five weeks after her admission, and at the period when the catamenia again appeared, she suffered a sudden relapse; she made a violent and indecent attack upon a woman whom she believed to be a man. Her head became hot, her face flushed, her eyelids drooped—the eye being turned upwards, the carotids pulsated strongly, although the general pulse was weak. The same remedies which afforded relief before were tried in vain, and for five days she

attempted to injure herself in every possible way, by thrusting her hand down her throat, by beating her head against the wall or the floor, and by attempting to drown herself in the bath. Several nurses were with her night and day, and upon them she made constant attacks of an indecent nature. She moaned and exclaimed, "Oh, my God! Oh, blessed Jesus! Oh, save me!" and evidently suffered great mental anguish. The large doses of opium which were administered had not the slightest soporific effect, and during the whole of the attack she never lost consciousness in sleep. Within half an hour of her death she was conscious of the visit of the Catholic priest, and appeared to understand the last sacrament which he administered. But so long as she was able to lift her hand, she seemed to be occupied with a firm purpose of self-destruction. Gradually the breathing became slower, and the pulse more feeble; and, at the end of the fifth day of the attack, she died from asthenia.

Post Mortem.—Complexion highly sanguine; body well nourished, and more hirsute than is usual among women. The scalp bloodless. The calvarium very thick, hard, and heavy; being sawn off in the usual manner its weight was 19½ oz. Specific gravity: cerebrum, gray matter 1·038, white matter 1·040, cerebellum 1·042. The dura mater somewhat adherent. The arachnoid was healthy, but there was a slight quantity of subarachnoid fluid. The pia mater was generally congested, the congestion being greatest over the anterior lobes. The gray matter of the convolutions was paler than usual, but the white matter of the brain had the pink appearance of hyperæmia. In the right middle cerebral fossa the dura mater was covered with a thick straw-colored adventitious membrane. Over the whole of the base of the skull, the shining surface of the dura mater was of a yellowish color, and the membrane was easily separable from the bone. The hepatic system was congested. The catamenia were flowing. The hymen was perfect. The uterus and its ligaments, and the ovaries were greatly congested. The right ovary contained a cyst about the size of a small nut, having inside a yellowish fluid. The left contained a cavity about the size of a large pea—false corpora lutea—lined with a yellowish cartilaginious structure containing a clot of blood. The other organs were healthy.

It is probable that the pathological appearances found at the base of the brain were the result of the previous attack of mania, which however had left no apparent effect in the condition of the patient beyond the very serious one of a tendency to relapse. This poor young woman bore an exemplary moral character, directly at variance with that which might physiologically have been expected from the indication afforded by her conformation and temperament. Vehement mental perturbation appears to have resulted from the struggle between mental purity and the physiological impulses of sex. The acute cerebral hyperæmia was sympathetic with the state of the ovaries, and affords an illustration that the conditions of the brain in sympathetic disturbance, are actual and tangible morbid conditions, and not the mere vibrations of an irritation. The pale color of the gray matter of the convolutions, in contrast with the hyperæmic condition of the white substance, was remarkable. Probably this state of the gray matter did not exist long before death, and was an effect partly of the gradually failing powers of life, partly of the leeches and refrigeratory measures applied to the head. The gray substance of the convolutions appears to pass more readily into and out of a state of hyperæmia than the white substance.

Chronic Mania.—Death from Suicide.—W. R., No. 883. A shoemaker, aged 61. Seven years before was noticed to be insane, parading the streets with a knife tied on a pole, and frightening people. Had continued strange ever since, seldom speaking to any one, or answering when spoken to. Requiring parochial relief, he was compelled to take it in the Union House. He became morose and excitable; refused to work in the house, and was twice committed to Bridewell on that account; but for the last two years, when he had refused to work, he had been treated in a summary manner—put under confinement in the house, and kept on bread and water. A week before his admission into the Asylum, he obtained a knife and cut his throat; he lost much blood. The wound was sewn up by the Union surgeon, but he twice tore it open, and said he would "tear the eyes of the attendant out, it he did not bring a razor for him to complete the job." *On admission,* extremely emaciated; the cellular tissue emphysematous all over the body, even down to the wrists; the scrotum quite inflated with air. Respiration hurried, but the stethoscope cannot be used on account of the crackling of the emphysema over the chest; pulse 120, very feeble; an open wound into the larynx between the cricoid and thyroid cartilages, through which the thumb may be passed; the air respired passes partly through the wound. He lay quietly, without being able to speak; did not interfere with the dressings; took wine eagerly. Wine, brandy and egg, beef-tea, &c., were administered frequently; but he gradually sank, and died, after being in the Asylum two clear days. *Post-Mortem.*—Cranium thick; dura mater firmly adherent; pacchionian bodies large, greatly indenting cranium; venous congestion of pia mater; subarachnoid effusion in small quantity. Substance of brain soft and watery: weight 2lb. 11¾oz. Sp. gr. cerebrum 1·039; cerebellum 1·045. Gray matter of convolutions of a muddy brown color, the external layer darker than the internal; the vesicular neurine also of a muddy color, with numerous blood points. Heart 5½oz. Intestines dark in color, inflated, covered with old false membrane. Cysts in surface of kidneys. The wound in throat not interfered with.

Mania with changing Delusions.—Death from Chronic Gastritis.—J. B. W. A letter-carrier, aged forty-eight. Ten days before admission requested his brother to accompany him in his rounds, as people were waylaying him with the intention of destroying him. Had since been very restless, excited, and ungovernable; had suffered much grief from the immoral conduct and death of a daughter. No relatives insane. On admission, great anxiety and restlessness; heard noises of people coming to injure him; head over-warm; tongue furred; pulse quick and weak; sleep fair; muscular movements active and normal. Aperients. Improved greatly during the first month; acknowledged his delusions to be such, and said he had been subject to morbid fancies of plots and an impending evil for two years. After a game at cricket, he began to talk of his old delusions with nervous, excited manner; hot head, flushed face, and quick pulse. Antim. P. Tart. gr. ⅓, ex aquâ ter die. This medicine not well borne, and omitted after four days. The delusions of fear gradually changed to others of pride; said he had £365,000 a year; was a knight of the realm, constantly bowing and kneeling to Her Majesty. Bal. pluv. o. m. C.C. ad ℥vj nuchæ. After a week, Baln. cal. c. affus. frigid. capiti pr horæ dim. o. n. Afterwards head cool, free from pain; pulse quick, of fair tone; quiet at night, but wakeful. Warm baths omitted after a week; morning shower-baths ordered, and omitted after a fortnight. After two months, acquired a new leading

delusion, that a certain mesmerizing surgeon had gained complete power over his body and soul, and that he was going to hell: gloomy and anxious, losing flesh, appetite indifferent. Sp. Ammon. C. S. Ætheris C. aa ℥ss. Inf. Gent. C. ℥i ter die. After two months, wished to be killed, but would not attempt his own life, if Dr. B. would cut off his head when the Queen sent her permission; often refused food, saying it was poisoned, and needed to be fed; still lost flesh and became emaciated; tongue thin, with a red tip; alvine evacuations formed, of a pale clay color, scanty; complexion clear; pulse quick and feeble; sleep fair; no abdominal pain. Ol. Jecoris Aselli, Hydr. c. Creta, gr. v, o. n. Baln. Cal. 96, alternis noctibus. Eggs and new milk diet. Strong ale and wine. For two months longer he gradually declined in health, the delusions remaining the same. Took nourishment better, but enjoyed beer and wine most. Ten months from admission became gradually lower, lost his voice, did not recognize his relatives, became drowsy, and died without a struggle. *Post Mortem.*—Body greatly emaciated; calvarium thick; dura mater not adherent; arachnoid transparent, containing 3 oz. of serum in its cavity. Vessels of pia mater on right side much congested and enlarged. Subarachnoid effusion over the whole of the right hemisphere, and the anterior convolutions of the left. Lateral ventricles normal. The color of the gray matter of the convolutions not uniform, the external third of its thickness being darker than the internal. Both the vesicular and tubular neurine softer than usual; cerebellum and medulla normal; pituitary body smaller than usual. Weight of brain, 2lb. 2oz. Sp. gr. 1·045. Lungs healthy. Heart 7 oz., firmly contracted; aortic valves thickened; aorta contracted and atheromatous. Œsophagus presenting a jelly-like appearance of the mucous coat. Stomach: the mucous membrane soft and pultaceous; decided marks of inflammatory action in cul de sac and along large curvature; a patch of inflammation the size of a crown-piece near the cardiac orifice. Transverse arch of colon lying in the pelvis; small intestines contracted, and lying in the pelvis; some enlargement of the mesenteric glands; spleen contracted. Other organs healthy.

Mania from Dissipation and Intemperance.—S. A. S., No. 1223. A public prostitute for twenty-five years; during that time has had seven illegitimate children; three years since was said to have been married, but this is doubtful. When the person calling himself her husband visited her in the asylum, she cried, "Oh, the brute! the devil! why did you allow him to come here? He is not my husband, and never was!" Had been maniacal three months; was extremely filthy in her habits, daubing her person with excrement, &c.; used profane language, and would have been violent if her strength had permitted. Before being brought to the asylum, she was permitted to lie in bed until her legs had become fixed in a flexed position, the knees on the stomach and the heels on the buttocks; she was extremely emaciated, and altogether an abject specimen of human wretchedness. Wine and quinine, and her favorite liquor, gin, were given her, with good soups, &c.; but she gradually sank, and died six weeks after admission. *Post Mortem Examination.*—Circumference of cranium 1 foot 8 inches; weight of brain 2lb. 7oz.; capacity of cranial cavity 41½ fl. ℥; displacement of water by brain 37 fl. ℥; cerebral atrophy 4½ fl. ℥; Calvarium very thick and heavy, a quantity of sanguineoserous fluid escaped on removing it; dura mater congested; arachnoid opaque and thick; the vessels of the pia mater congested, and containing numerous bubbles

of air; gray matter of convolutions ·06 of an inch in thickness, its different layers obvious; sp. grav. of gray matter of cerebrum 1·035, of white matter 1·041, of cerebellum 1·041; substance of brain of normal appearance; an effusion of coagulated blood into the middle cerebral fossæ, to greatest extent on left side. *Lungs* healthy, the left pleural cavity containing an abundant sanguineous effusion, forming into laminæ attached to the pleura pulmonalis and costalis. *Heart* small, flabby, 4¾oz. in weight.

General Paralysis following Apoplexy.—J. H., No. 668. A builder, aged forty, always industrious and well conducted; the father was insane. About three months before his admission into the asylum, a woman to whom he was engaged jilted him, and married another man. For some days after this occurrence, he was taciturn and dejected; he then showed symptoms of excitement in the management of his business. He then decked himself with garlands of flowers, and perambulated the streets in this masquerade guise. He visited the gardens of his neighbors, and helped himself to flowers and fruit. In the asylum he alternated between periods of depression and excitement; but eventually he recovered perfectly, and was discharged in nine months from his admission. He remained well for four years, when he had a convulsive attack, and became palsied. The medicinal treatment to which he was subjected having failed to restore him to health, his friends called in the aid of witchcraft, by invoking the aid of the Wise Man of Plymouth.

We have been informed by a person who assisted in the ceremonies, that this man first employed a charm and incantations, which consisted in burning the viscera of a sheep, in a fire made in the centre of the floor of one of the rooms in the patient's house, the fuel consisting of an ashen fagot; while the viscera were burning incantations and passages from Holy Scriptures were read. This charm having failed, in a week's time another was tried, consisting of burning tapers carried round the house at midnight, with the accompaniment of incantations said and sung. This charm also having failed, the patient was brought to the Devon Asylum, when he was found to be far advanced in general paralysis. The symptoms, however, differed in some respects, from the typical form of this disease; he had less tremor, and more palsy, than is usual. When asked to show his tongue, he attempted to drag it forward with his finger and thumb, so completely had he lost the power of protruding it. He had ptosis of the right eyelid. He had convulsive attacks frequently in the evening; at night he was restless and noisy, groaning and talking. He died four months after his readmission. *Post-mortem.*—The Calvarium was normal; the dura mater was not adherent to it, but at the vertex the dura mater and other membranes were adherent to each other, and to the substance of the convolutions, by means of fibro-albuminous effusion. The arachnoid was opaque and thick, the pia mater was infiltrated with serum; the substance of the brain was atrophied to the extent of 10 oz., that being the difference between the capacity of the cranium and the displacement of water by the brain; the arteries at the base were healthy; the dura mater of the falx and the middle fossæ of of the brain was coated with a thin sanguineous effusion; there was also a layer of effused blood in the left middle fossa of the cranium. The layers of the vesicular neurine were very distinguishable; the tubular neurine was not obviously altered. The lateral ventricles were enlarged, and their lining membrane was covered with a granulated deposit. Sp. gr. vesicular neurine 1·033, tubular do. 1·037.

This case is interesting from the rare example it presents of general paralysis following mania. It may, however, be doubted whether the general paralysis was a pure example of the affection. The sanguineous effusions were probably of some standing, yet they offered no indications of a tendency to undergo the changes common to effused blood; perhaps they ought rather to be considered in the light of albuminous exudates, colored with blood pigment. Virchow has taken this view of similar appearances.

Homicidal Monomania. Death from Pneumonia.—J. K., No. 771. An agricultural laborer of steady and industrious habits; had thought, talked, and read much on religious subjects; twelve months previously he became restless, gloomy, and reserved, irregular at his labors, and distressed about his soul. He had shown no disposition to suicide or violence, but had the constant feeling that he must destroy some one. On admission he was twenty-six years of age, a fine, powerful man, six feet high, with more than the average intelligence of his class. He was aware that his mind was affected, and said that his head was filled with vain and evil thoughts, and that the more he strove to get near the Scriptures the farther he was from them; he felt a strong desire to commit murder, which he struggled against and thought a temptation of the devil. His head was hot, and he had some pain in it, but was otherwise in good health. In the course of a month he improved greatly, but relapsed after a visit from his friends; he however again improved, lost all his bad thoughts, and for some weeks labored at spade-husbandry. Whilst thus engaged, he one day came to the writer and begged to be taken from the garden and placed in a safe ward, as he had experienced the strongest desire to kill some of the patients with his spade. His request was complied with, and from this time he never again lost the homicidal feeling. To avoid the murderous assault to which he felt himself impelled he often requested to be locked in his bed-room, and still more frequently tied his own hands together with a piece of packthread, which he could have snapped with the greatest facility, but which he said enabled him to resist the temptation; he was sad and morose, but never displayed the slightest violence. Six months after his admission he was attacked with pneumonia, first of one lung and then the other. Partial softening took place, followed by hemorrhage, of which he died. *Post mortem.*—The calvarium was thick and dense, the dura mater strongly adherent; the visceral arachnoid was opaque and thickened over the vertex, over the anterior lobes it was in a state of general reddening from congestion. The pia mater, over the vertex, was infiltrated with serous fluid; over the anterior lobes it partook of the congestion of the arachnoid; over the right anterior lobe there was a patch of about an inch in extent, in which there was a rough opaque deposit of fibro-albumen, in the pia mater and arachnoid. The pacchionian bodies were very large. With the exception of partial atrophy of the convolutions of the vertex, the substance of the brain presented a normal appearance. The lower lobes of both lungs were in a state of gray softening from pneumonia.

Partial Recovery after Acute Mania.—Death from a Convulsive Attack.—B. B., No. 708. A baker, aged twenty-seven, of very intemperate habits; had had a previous attack; before admission had been bled very largely. Admitted with restless, mischievous mania, with small pulse, haggard countenance, and feeble powers. Under a stimulating treatment he recovered sufficiently to pursue his handicraft in the asylum. Four months after his admission he was attacked with the symptoms

of pulmonary gangrene; the stethoscope, however, indicated that the disease was confined to a part of the middle of the left lung; and he entirely recovered from it, and resumed his occupation of baking. After the interval of a year, while apparently in good health, he fell from his seat at the supper-table in convulsions, which continued for twelve hours, when he died. *Post-mortem.*—The calvarium was found thick and dense; the membranes and substance of the brain were adherent around the crista galli, which was largely developed; the arachnoid was generally thickened and opaque; the pia mater was greatly congested, adherent, and infiltrated with a considerable amount of serous fluid. Over the petrous portion of both temporal bones, the dura mater, arachnoid, pia mater, and substance of the brain were firmly adherent. The color of the gray matter of the brain was dark but uniform; the medullary matter was minutely injected, and of a pinkish color. The lateral ventricles each contained 3 oz. of serous fluid; their lining membrane was smooth and normal. In the upper part of the lower lobe of the left lung, was an isolated spot of indurated tissue, carnified, about 1 inch by 2 inches, containing an irregularly shaped concretion, the size of a pea. The thymus gland occupied a great part of the anterior mediastinum, and was 3 inches in length by 2 inches in breadth.

Acute Melancholia from Fear.—W. M. D., aged 32, of good general health and temperate habits. Having a tumor in the front part of the chest, he consulted a medical man respecting its nature, and having been told by the latter, that the tumor was an aneurism of the aorta, and that some time or other it would burst and cause instant death, he became greatly depressed, and in about a week, he displayed a tendency to suicide. On being brought to the asylum, he was very taciturn, and refused to answer questions. He occasionally ejaculated, "O God, save my soul, I am a lost sinner." His whole attention seemed to be concentrated upon his own state of religious feeling. He rarely moved, or spoke, or appeared to take notice of occurrences. He refused food, but was regularly fed with as much wine, beef-tea, arrow-root, and other aliments, as would have supported a healthy man; notwithstanding this, he rapidly lost flesh and strength, and died in three weeks after his admission. The tumor in his chest proved, on examination, to be a fibro-cartilaginous one; he was assured of its harmless nature immediately after his admission into the asylum, but the information afforded him no comfort. *Post-mortem.*—The skull was found to be very thin; in one place, on the parietal bone, it was as thin as paper. The dura mater adhered strongly to the calvarium, and was dark-colored from venous congestion; there was extreme congestion of the arachnoid and pia mater, giving a general strong red hue to the right anterior lobe. There were also several patches of ecchymosis in the pia mater, over the right middle lobe. Over the left hemisphere the membranes were much less injected. Over the sulci the arachnoid presented a semi-opaque appearance. The pia mater adhered firmly to the substance of the brain. The whole substance of the brain was much injected. The ventricles and coats of the arteries of the brain were normal. No pathological appearances of importance existed in any other part of the body, except the remains of partial pleurisy in the lower lobe of the left lung. The partial congestion of the cerebral membranes observed in this case is a rare appearance.

Note.—Since writing the chapter on Pathology, we have had reason to modify

the opinion there expressed respecting the extreme infrequency of albuminuria in the insane. We have recently admitted a man suffering from acute mania, in whom the urine was loaded with albumen. On examining the body after death, the kidneys were found in the hypertrophic stage of Bright's disease, one of them weighing $10\frac{1}{2}$ oz. The man was a boiler-smith, of drunken habits. On looking carefully through our case-books, we find one other case of this disease, in a woman aged 75, who was admitted in 1850, with melancholic dementia and broken-down health. The urine contained a small quantity of albumen. The kidneys were atrophied, the largest weighing $2\frac{1}{2}$ ounces.

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